

# DEFENSE '96

FORCE OF THE FUTURE

## JOINT VISION 2010

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# SIX POSTULATES FOR NATO's FUTURE

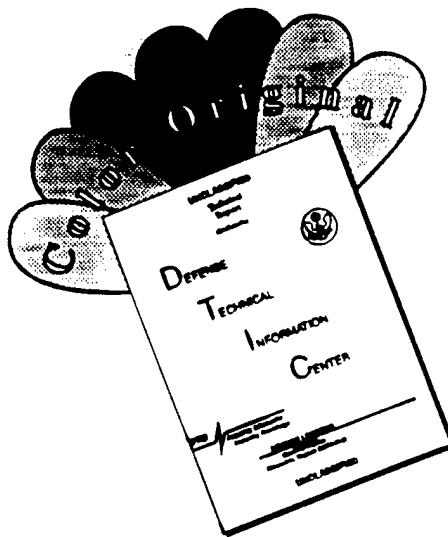
BY WILLIAM J. PERRY, *Secretary of Defense*

JUST ONE YEAR AGO, I attended the Defense Ministerial in Brussels. Without question, this was the most dismal NATO meeting I have ever attended. Bosnia was being ravaged by unspeakable atrocities. The United Nations was being humiliated with its peacekeepers chained to Bosnian Serb radar. European nations and the United States were at complete odds with each other. At that meeting, the United States was pushing to take robust air action to punish the Serbs for violating U.N. sanctions, and the European nations, with troops on the ground, feared such action would endanger their troops.

As a result, NATO, paralyzed into inaction, was shown to be irrelevant in dealing with the Bosnian crisis. At that meeting, we rightly asked a critical question: If NATO is not relevant to Bosnia, the greatest security crisis in Europe since the end of the world war, what is it relevant for? In sum, at that meeting, it appeared to me that NATO was in the process of unraveling.

Based on remarks at the Supreme Allied Commander Europe Conference, Brussels, June 27, 1996.

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What a difference a year makes. The defense ministerial in Brussels this year was one of strength and of hope. The alliance was vibrant and self-confident. The United States and European nations were working together harmoniously, and NATO was conducting its first military operation with great success.

In this heady atmosphere, the defense ministers were joined by ministers from 26 Partnership for Peace nations, including Russia. We all realized that 1996 had already been a year of truly historic change for NATO. We continued that process of change at that meeting by taking actions that will help build the kind of NATO that Europe will require to meet the challenges of the 21st century.

#### **First Postulate**

Based on the Brussels meeting, I offer six postulates about what the NATO alliance of the 21st century will look like.

The first postulate is that NATO itself will be stronger and more united.

IFOR is the first major military action in the history of NATO, and it has revitalized the alliance. It has proven that the NATO nations, who have decades of experience exercising and training together and who share common doctrine and standards, can operate together with great effectiveness.

Because of NATO's efforts through IFOR, the nations of the former Yugoslavia are experiencing their first peaceful spring in five years. Today, for all of the problems still in Bosnia, you can go to Sarajevo and Mostar, for instance, and see people sipping coffee in the sidewalk cafes instead of dodging mortars and artillery shells. This spirit of solidarity infused the meeting in Brussels as we also welcomed France's full participation in a formal meeting of NATO defense ministers for the first time in 30 years.

The second postulate is that NATO will continue to build a zone of stability throughout the continent through the Partnership for Peace.

The partnership, which I call PfP for short, is now hitting its full stride. In 1996 alone, we will conduct 15 major exercises and scores of other PfP-related activities. These exercises and activities not only help us tackle such post-Cold War military missions as peacekeeping, humanitarian relief, and search and rescue, they also help us foster trust and cooperation between East



and West, and among the partner nations themselves.

In Brussels, we sought to strengthen PfP and ensure that it becomes a permanent pillar of Europe's security architecture. We agreed to increase partner participation in planning for exercises, even contingencies. And building on the experiences of PfP nations in IFOR, we agreed to increase the number and complexity of PfP exercises.

British Marines board a U.S. landing craft during Combined Joint Task Force Exercise 96, conducted in May near Morehead City, N.C. The exercise involved more than 53,000 U.S. and British personnel.

#### **Mentor Relationships**

In my remarks to my colleagues, I stressed the need for individual NATO nations to build mentor relationships with individual partner countries, particularly those whose resources limit what they can do. I suggested, for example, that one or more NATO members should consider sponsoring the Polish-Ukrainian peacekeeping battalion in the same way the Danes are sponsoring the Baltic peacekeeping battalion. Others could mentor the South Balkan nations as they seek to implement goals that came from their recent meeting of the South

Balkan Ministerial meeting or give special assistance to partner countries in defense budgeting and strategic planning. These "in the spirit of PfP" activities strengthen not only the partnership, but also NATO and the security of Europe.

### **Third Postulate**

The third postulate is that NATO will be larger.

Enlargement is moving along as planned. Last fall, NATO completed its study on the "how" and "why" of enlargement. We are now proceeding with the second phase — conducting intensive consultations with partner nations interested in joining — to help them prepare to meet the criteria and responsibilities of membership.

About those criteria, I would first remind everyone that NATO is not a social club or fraternity, but a military alliance. The potential members must be prepared to defend the alliance and have the professional military forces to do it.

NATO has worked effectively by consensus in the past and it must continue to do so whether it has 16 or 18 or 20 members. New members must respect this tradition.

An A-6E Intruder from the carrier USS George Washington and Super Etendard fighters from the French navy carrier Clemenceau practice in-flight refueling operations over the western Mediterranean.

Military forces of new members must be capable of operating effectively with NATO forces. This means not only a common doctrine, but interoperable equipment — especially communications equipment.

Potential new members must uphold democracy and free enterprise, respect human rights inside their borders, and respect sovereignty outside their borders. Their military forces must be under democratic, civilian control.

Every time I meet with a partner nation that aspires to NATO membership, I tell them: "This is what you're aspiring to. This is how you will be judged when the NATO ministers meet and judge which of the applicant nations should be considered for membership."

These principles are not set as hurdles to NATO membership, but as guarantees that the alliance will continue to be effective and capable for another 50 years. Many partner members have already made great strides to meet these principles, and the intensive consultations we are now engaging in will help them move even further.

My fourth postulate is that NATO will build a cooperative relationship with Russia.



Lt. Brent Phillips, USN

Russia has been a key player in Europe's security for over 300 years. It will remain a key player in the coming decades. The only question is whether its role will be positive or negative. Quite clearly, we want Russia to play a positive role. Russia has taken the right step by choosing to participate in the Partnership for Peace. We welcome Russia's participation — indeed, we hope Russia will take on a partnership role commensurate with its role as a great power.

NATO's cooperative relationship with Russia should be in addition to and apart from Russia's participation in the Partnership for Peace. The blueprint for this cooperative relationship comes from working together in Bosnia. Not long ago, I visited the American division in Bosnia that includes the Russian brigade. I met with all the brigade commanders, including the Russian brigade commander. I can report the operation is going smoothly and that the brigade commanders — the Americans, the Russians, the Nordic, the Turks — are working together cooperatively.

By its participation in the peace implementation force, Russia is demonstrating its commitment to participate in the future security architecture of Europe. In Brussels, we built on this commitment when the NATO defense ministers met with the Russian defense minister in a 16-plus-1 format. At this meeting, we essentially agreed to station Russian officers at SHAPE headquarters and at subordinate NATO commands, and Russia agreed that we would send NATO officers to the Russian general staff in Moscow. These arrangements essentially institutionalize the liaison arrangement already created on an ad hoc basis in order to carry out the Bosnia operation.

#### **Fifth Postulate**

My fifth postulate is that NATO will be more flexible and efficient.

As it moves from the one-threat scenario that determined its response and command structure for nearly 50 years, NATO is adopting a mechanism that will reflect its new flexibility to respond to new challenges — the combined joint task force. We are working hard to complete the concept, but we already have a task force in practice in Bosnia, so we don't have to spend too much time on the theology of what one is. All we have to do is generalize what is already a successful combined joint task force in operation.

In addition to becoming more flexible, NATO recognizes the need to become more efficient. In many ways, NATO was not well-structured for the Bosnia mission. Our command and decision-making structures were geared almost exclusively toward executing a known plan with predesignated forces against a known adversary. On the other hand, the implementation force involved much greater uncertainty and highlighted NATO's need to streamline and modernize.

#### **Report Expected**

In the fall, our military authorities will issue a report that will recommend how to make the command structure more responsive and flexible and how to adapt the defense planning process. We are also taking actions to simplify and speed-up the entire decision-making process through the creation of the Policy Coordination Group and the Capabilities Coordination Cell. I have some misgivings about these bureaucratic organizations designed to streamline NATO, but just think about that a little bit: The goal is clear even if the mechanism is a little shaky at this stage.

Let me be absolutely clear that the goal of NATO's efforts to become more flexible and efficient is to allow all the allies to work together more effectively. It is not an effort to get by without the full participation of the United States. NATO needs to get better at operating at 16 before it even considers how to operate more effectively at less than 16.

This leads me to my sixth and last postulate about NATO's future: NATO will remain a true trans-Atlantic alliance.

I think the clear lesson from Bosnia is that NATO operates best when we are all together. I hope everybody on both sides of the Atlantic has learned this lesson and that NATO continues to operate together on all its major missions.

The security of Europe remains critical to the security of the United States, and American involvement in Europe remains critical to the security of Europe. Forty-nine years ago, Gen. George Marshall, then our secretary of state, laid out a vision for Europe in the future, a Europe united from the Atlantic to the Urals — united in peace, freedom and democracy. We have it within our grasp to realize that vision. That vision can only be achieved through a strong, vital trans-Atlantic partnership. ▼



**William J. Perry**

Perry became secretary of defense Feb. 3, 1994. He had been deputy secretary since March 11, 1993. Prior to that, Perry was a Stanford engineering professor and co-director of the university's Center for International Security and Arms Control. He served during the Carter administration as under secretary of defense for research and engineering. In the private sector, he has been an executive vice president of Hambrecht & Quist Inc., an investment banking firm specializing in high-technology companies; director of Electronic Defense Laboratories at Sylvania/General Telephone; and a founder and president of ESL, Inc., a defense-oriented electronics and computer firm. Perry holds bachelor's and master's degrees from Stanford and a mathematics doctorate from The Pennsylvania State University.

# FORCE OF THE FUTURE

JOINT VISION 2010

Joint Vision 2010 draws on our most fundamental source of strength — our people. People are the armed forces; at the end of the day, our success in war or in peace will rest ultimately on the men and women of the armed forces. The skills and vitality of our people will also provide the driving force for shaping change. Channeling our strengths with this vision, we will move toward a common goal: a joint force — persuasive in peace, decisive in war, pre-eminent in any form of conflict.

#### **Threads of Continuity**

As we build our forces to this joint vision, there will be strong threads of continuity with the contemporary strategic and operational environment. Among these threads are American goals and interests, as well as the missions, tasks, strategic concepts and quality of our armed forces.

America's enduring goals include protecting the lives and safety of Americans both at home and abroad; maintaining the political freedom and national independence of the United States with its values, institutions and territory intact; and providing for the well-being and prosperity of the nation and its people. These goals, in turn, generate American interests which must be protected and advanced. Our fundamental interests lie in enhancing U.S. security, promoting prosperity at home and promoting democracy abroad.

The United States has undertaken foreign and security policies aimed at securing these interests. Ensuring strong relations with our allies, protecting our rights of transit on the high seas and enlarging the community of free market democracies are examples of policies we are likely to continue to pursue in the years ahead. On the whole, there is likely to be far more continuity than change in these interests and policies.

#### **Strong Forces Required**

To protect our vital national interests we will require strong armed forces, which are organized, trained and equipped to fight and win against any adversary at any level of conflict. Concurrently, we must also be able to employ these forces in operations other than war to assist in the pursuit of other important interests.

The primary task of the armed forces will remain to deter conflict, but should deterrence fail, to fight and win our nation's wars.

In addition, we should expect to participate in a broad range of deterrent, conflict prevention and peacetime activities. Further, our history, strategy and recent experience suggest that we will usually work in concert with our friends and allies in almost all operations.

America's strategic nuclear deterrent, along with appropriate national-level detection and defensive capabilities will likely remain at the core of American national security. However, the bulk of our armed forces will be engaged in or training for worldwide military operations. In these operations, we will largely draw upon our conventional warfighting capabilities. We will fight if we must, but will also use these same capabilities to deter, contain conflict, fight and win, or otherwise promote American interests and values.

To ensure we can accomplish these tasks, power projection, enabled by overseas presence, will likely remain the fundamental strategic concept of our future force. We will remain largely a force based in the continental United States. However, our permanently stationed overseas forces, infrastructure and equipment, temporarily deployed forces, and the interaction between U.S. and foreign militaries together demonstrate our commitments, strengthen our military capabilities and enhance the organization of

The nuclear missile and attack submarine fleets comprise major segments of America's warfighting capabilities. This was true throughout the Cold War and will remain so.



Petty Officer 1st Class Victor Navarro gives the standby signal for the launch of an F-18 Hornet fighter from the deck of the USS Constellation.



coalitions and multinational operations to deter or defeat aggression.

Power projection from the United States, achieved through rapid strategic mobility, will enable the timely response critical to our deterrent and warfighting capabilities. Our overseas presence and highly mobile forces will both remain essential to future operations.

#### ***U.S. Unequaled***

Currently, our armed forces are the best trained, best equipped and most ready force in the world. The quality of our people is unequalled at all levels of the chain of command. Leaders in each of our services are developed through well-conceived, intensive long-term programs. Our equipment is first-rate and it is sustainable in all operations. Together, our personnel, leadership and equipment are molded into exceptionally able forces through stressful training, which closely approximates wartime conditions and requirements.

Since the mid-1980s, this high quality has been the essence of the armed forces. Military operations are planned knowing that leaders truly understand the requirements, the equipment is operable and safe, and the men and women at the cutting edge have the skills and character to execute their tasks

successfully.

However, this quality force has been achieved only at great expense and effort. It has required the creation of institutions and procedures, sharpened over more than two decades of experience, to develop these armed forces in the most effective and efficient manner possible. These institutions and procedures, and the high-quality forces they have produced, remain at the very center of Joint Vision 2010.

Attracting people with the intellectual tools, physical skills and motivation to serve effectively in the military was foremost among the requirements for building a professional, robust and ready force. In the late 1970s, over 15 percent of our enlistees scored in the lowest category for military qualification examinations. Today, less than 1 percent are in that category and over 90 percent of our enlistees have graduated from high school.

The combination of careful targeting of requirements, recruiting incentives, quality of life initiatives and challenging opportunities has been very effective in attracting the personnel needed to sustain our quality force.

Retention of highly trained service members in sufficient numbers has also been a key requirement, and we intend to sustain

these efforts. Our first-term re-enlistment rates have risen by 10 percent over the last 15 years. Higher retention is the result of a committed effort by top leadership throughout the government toward raising career satisfaction, improving command climates, keeping pay competitive and benefits stable, maintaining time at home and deployed at an acceptable balance, and focusing on quality of life initiatives.

### **Keen Leaders Developed**

Another element of our success has been effective leadership development. From deliberate and intensive processes involving institutional, on-the-job and self-study methods, the men and women of our armed forces gain the skills, knowledge and attitudes required to accomplish their required tasks across the range of military operations.

These formal development processes are designed to balance timing, costs and operational requirements, at each level of leadership. We will retain those innovative processes to ensure that we maintain the best possible leadership for our armed forces.

Realistic and stressful training has been the primary way to keep readiness high and prepare our men and women to face the challenges of combat. Such training, consisting of carefully balanced programs of individual, crew and larger organizational training and assessments, is central to training the way we will fight. From individual or crew mission simulators, through full-blown field exercises at home or abroad, realistic, evaluated training is and must remain our best combat multiplier.

Joint, coalition and combined training and exercises have improved our interoperability and understanding of the strengths of each individual service as well as allies and coalition partners. From the individual warfighter to large multinational forces, this systematic approach has enabled our men and women to hone their skills in practice many times before ever having to perform actual combat missions. These training innovations must be sustained.

Today, our highly trained, quality force has the tools to perform its warfighting tasks. Just 15 years ago, our forces were less well equipped, spare parts inventories were critically short and sustainability was low. Since then, we have modernized our force and ensured that we procured the parts and

provided the training required to take full advantage of this new equipment.

Technologically superior equipment has been critical to the success of our forces in combat. This first-rate equipment, when combined with our top quality forces, has been a key element of our continuing operational successes. We must continue to ensure our soldiers, sailors, airmen and Marines are fully capable of fulfilling their required tasks with equipment that is engineered to provide superior mission performance as well as safety and reliability.

We must maintain a careful balance between equipping and sustaining our forces and between tooth and tail in our force structure. We must also work to assure an efficient and effective support structure and resources for all of our forces.

Accelerating rates of change will make the future environment more unpredictable and less stable, presenting our armed forces with a wide range of plausible futures. Whatever direction global change ultimately takes, it will affect how we think about and conduct joint and multinational operations in the 21st century. How we respond to dynamic changes concerning potential adversaries, technological advances and their implications, and the emerging importance of information superiority will dramatically impact how well our armed forces can perform its duties in 2010.

### **Smallest in Years**

America's armed forces are smaller than we have been in over 40 years, and we have decreased the percentage of our forces permanently stationed overseas. Faced with flat budgets and increasingly more costly readiness and modernization, we should not expect a return to the larger active forces of the Cold War period.

The American people will continue to expect us to win in any engagement, but they will also expect us to be more efficient in protecting lives and resources while accomplishing the mission successfully. Commanders will be expected to reduce the costs and adverse effects of military operations, from environmental disruption in training to collateral damage in combat. Risks and expenditures will be even more closely scrutinized than they are at present.

Simply to retain our effectiveness with less redundancy, we will need to wring every ounce of capability from every available

source. That outcome can only be accomplished through a more seamless integration of service capabilities.

To achieve this integration while conducting military operations we must be fully joint: institutionally, organizationally, intellectually and technically. Future commanders must be able to visualize and create the "best fit" of available forces needed to produce the immediate effects and achieve the desired results.

### **Finding Best Methods**

It is not enough just to be joint when conducting future operations. We must find the most effective methods for integrating and improving interoperability with allied and coalition partners. Although our armed forces will maintain decisive unilateral strength, we expect to work in concert with allied and coalition forces in nearly all of our future operations, and increasingly, our procedures, programs and planning must

The aircraft carrier  
USS Theodore  
Roosevelt cruises  
on station.

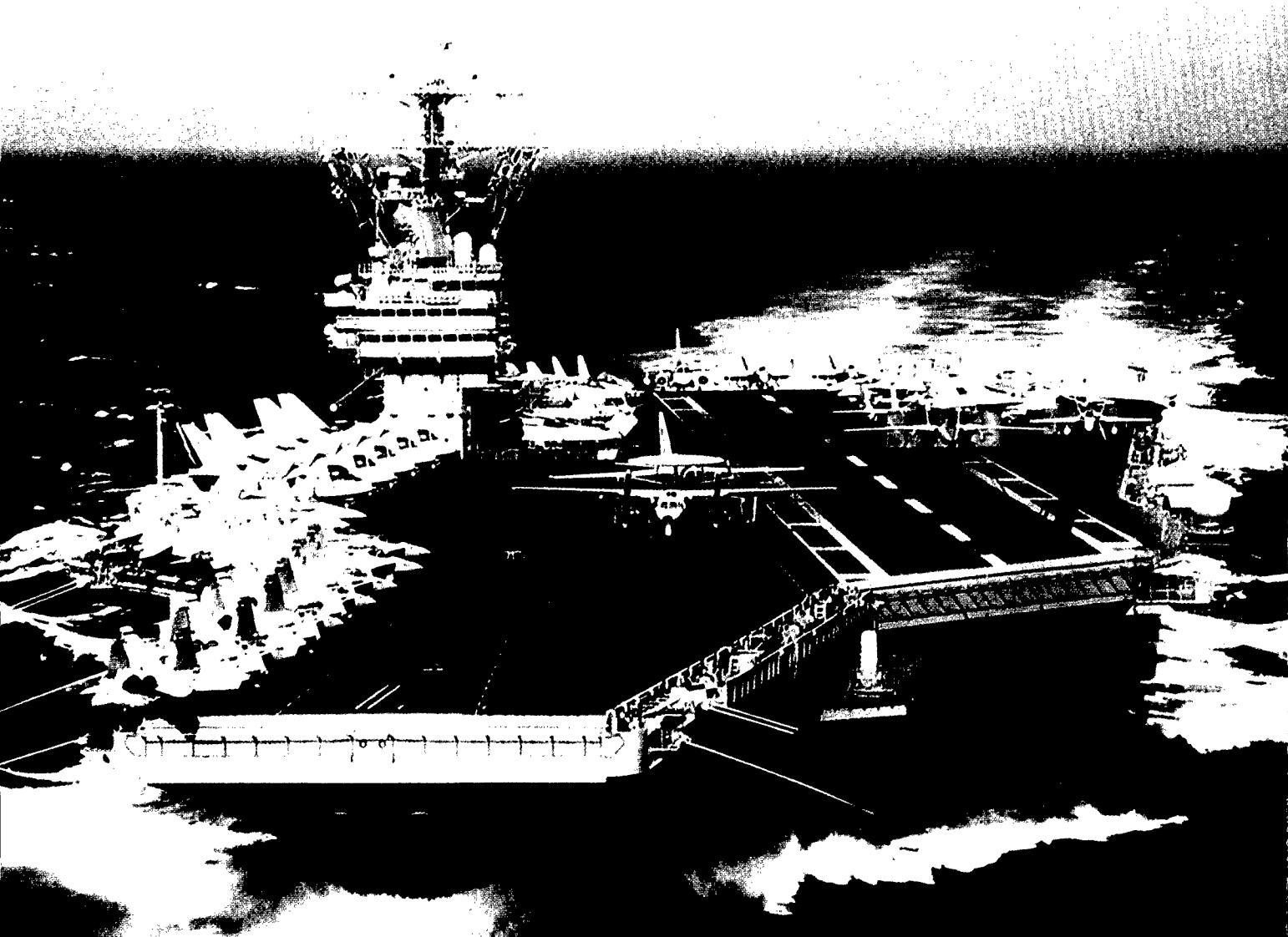
recognize this reality.

There will continue to be states or groups that oppose or threaten American interests and values or those of our friends and allies. Our recognition of these threats and challenges will continue to drive our national security efforts.

Greater global interaction will strongly influence the nature of future threats. Wider access to advanced technology along with modern weaponry, including weapons of mass destruction and the requisite skills to maintain and employ it, will increase the number of actors with sufficient military potential to upset existing regional balances of power.

Modern systems are sufficiently powerful that smaller numbers can dramatically alter the threats facing us. A number of potential adversaries may acquire the military hardware to make themselves distinctly more dangerous.

Our most vexing future adversary may be



one who can use technology to make rapid improvements in its military capabilities that provide asymmetrical counters to U.S. military strengths, including information technologies. Alternatively, the high leverage associated with modern systems means that significant improvements in military capabilities can occur very rapidly, outrunning the pace of compensating political or military countermeasures.

### ***Anticipating Wider Threats***

The application of these technologies against us may also prove surprising. Our adversaries will have an independent will, some knowledge of our capabilities and the desire to avoid our strengths and exploit vulnerabilities. We anticipate the probability of facing technological or operational surprise will increase in the period ahead. In sum, the United States must prepare to face a wider range of threats, emerging unpredictably, employing varying combinations of technology and challenging us at varying levels of intensity.

This era will be one of accelerating technological change. Critical advances will have enormous impact on all military forces. Successful adaptation of new and improved technologies may provide great increases in specific capabilities. Conversely, failure to understand and adapt could lead today's militaries into premature obsolescence and greatly increase the risks that such forces will be incapable of effective operations against forces with high technology.

Long-range precision capability, combined with a wide range of delivery systems, is emerging as a key factor in future warfare. Technological advances will continue the trend toward improved precision. Global positioning systems, high-energy research, electromagnetic technology and enhanced stand-off capabilities will provide increased accuracy and a wider range of delivery options. These capabilities will increase the combat power available for use against selected objectives, resulting in enhanced economy of force and a higher tempo of operations.

The ability to produce a broader range of potential weapons effects, from less lethal to hard target kill, from sensor-fused to directed energy weapons, will further enhance precision capability. Advances in target effects technologies will be integrated into existing weapons and give commanders

greater flexibility. These improvements will result in increasingly discrete and precise capabilities, which can achieve optimum results in both combat and other operations.

Advances in low observable technologies and the ability to mask friendly forces will also continue over the next 15 years. Signature reduction will enhance the ability to engage adversaries anywhere in the battlespace and improve the survivability of forces who employ it.

Stealth will strengthen the ability to accomplish surprise, reduce overall force requirements in many operations and make forces less visible to an unsophisticated or disoriented adversary. Microminiaturization will also promote signature reduction and greatly increase the capabilities available for individuals and small units. Concurrently, multispectral sensing, automated target recognition and other advances will enhance the detectability of targets across the battlespace, improving detection ranges, turning night into day for some classes of operations, reducing the risk of fratricide and further accelerating operational tempo.

Improvements in information and systems integration technologies will also significantly impact future military operations by providing decision makers with accurate information in a timely manner. Information technology will improve the ability to see, prioritize, assign and assess information. The fusion of all source intelligence with the fluid integration of sensors, platforms, command organizations and logistic support centers will allow a greater number of operational tasks to be accomplished faster. Advances in computer processing, precise global positioning and telecommunications will provide the capability to determine accurate locations of friendly and enemy forces, as well as to collect, process and distribute relevant data to thousands of locations.

### ***Harnessing Capabilities***

Forces harnessing the capabilities potentially available from this system of systems will gain dominant battlespace awareness, an interactive "picture" which will yield much more accurate assessments of friendly and enemy operations within the area of interest. Although this will not eliminate the fog of war, dominant battlespace awareness will improve situational awareness, decrease response time and make the battlespace

considerably more transparent to those who achieve it.

The combination of these technology trends will provide an order of magnitude improvement in lethality. Commanders will be able to attack targets successfully with fewer platforms and less ordnance while achieving objectives more rapidly and with reduced risk. Individual warfighters will be empowered as never before, with an array of detection, targeting and communications equipment that will greatly magnify the power of small units.

### ***Deployment Rapidity to Increase***

Strategically, this improvement will enable more rapid power projection and reduced logistics tails. Operationally, within the theater, these capabilities will mean a more rapid transition from deployment to full operational capability. As a result, we will improve our capability for rapid, worldwide deployment while becoming even more tactically mobile and lethal.

The implications of this increased lethality for overall force structure requirements are unclear. Given current technology, today's force structure is adequate to meet our full range of global needs, but barely so. While these prospective improvements in lethality clearly offer promise of reducing the number of platforms and the amount of ordnance required to destroy targets, many military missions will require occupation of the ground and intensive physical presence. For these missions the promises of technology are less certain, especially in environments such as cities or jungles.

During all operations, advanced technology in the hands of an adversary will increase the importance of force protection at all echelons. Any efficiencies garnered by our offensive systems must be underwritten by appropriate redundancies to safeguard against unanticipated technological, strategic or operational surprise.

Adaptations to this increasingly lethal battlespace will be warranted. These adaptations are likely to take the forms of increased stealth, mobility, dispersion and pursuit of a higher tempo of operations among elements within the battlespace.

To cope with more lethal systems and improved targeting, our forces will require stealth and other means of passive protection, along with mobility superior to the enemy's ability to retarget or react to our

forces. Increased stealth will reduce an enemy's ability to target our forces. Increased dispersion and mobility are possible offensively because each platform or each individual warfighter carries higher lethality and has greater reach.

Defensively, dispersion and higher tempo complicate enemy targeting and reduce the effectiveness of area attack and area denial weaponry such as weapons of mass destruction. The capability to control the tempo of operations and, if necessary, sustain a tempo faster than the enemy's will also help enable our forces to seize and maintain the initiative during military operations.

Greater mobility and increased dispersion will, in turn, require additional communications and coordination capabilities since the synchronization of these dispersed elements will become even more important. Fortunately, the technology for this improved systems integration is at hand.

The implications of improved systems integration are both profound and complex. New technologies will allow increased capability at lower echelons to control more lethal forces over larger areas, thus leveraging the skills and initiative of individuals and small units. These capabilities could empower a degree of independent maneuver, planning and coordination at lower echelons, which were normally exercised by more senior commanders in the past. Concurrently, commanders at higher echelons will use these technologies to reduce the friction of war and to apply precise centralized control when and where appropriate.

Even for higher level commanders, the accelerated operational tempo and greater integration requirements will likely create a more stressful, faster-moving decision environment. Real-time information will likely drive parallel, not sequential, planning and real-time, not prearranged, decision making. The optimal balance between centralized and decentralized command and control will have to be carefully developed as systems are brought into the inventories.

### ***Information Superiority***

Throughout history, gathering, exploiting and protecting information have been critical in command, control and intelligence. The unqualified importance of information will not change in 2010. What will differ is the increased access to information and improvements in the speed and accu-



racy of prioritizing and transferring data brought about by advances in technology. While the friction and the fog of war can never be eliminated, new technology promises to mitigate their impact.

Sustaining the responsive, high-quality data processing and information needed for joint military operations will require more than just an edge over an adversary. We must have information superiority: the capability to collect, process and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same.

Information superiority will require both offensive and defensive information warfare. Offensive information warfare will degrade or exploit an adversary's collection or use of information. It will include both traditional methods, such as a precision attack to destroy an adversary's command and control capability, as well as nontraditional methods such as electronic intrusion into an informa-

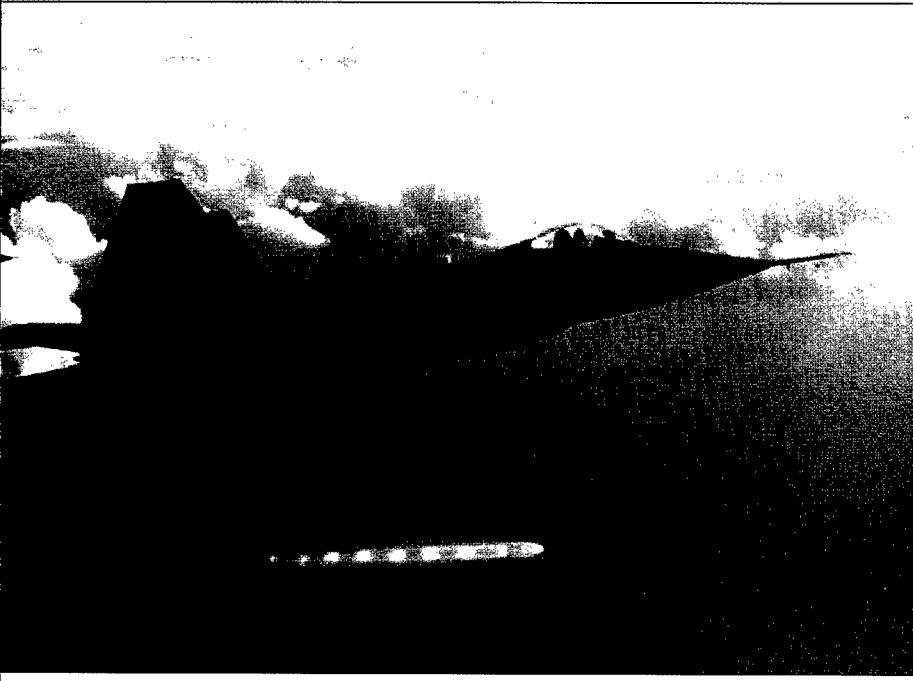
tion and control network to convince, confuse or deceive enemy military decision makers.

There should be no misunderstanding that our effort to achieve and maintain information superiority will also invite resourceful enemy attacks on our information systems. Defensive information warfare to protect our ability to conduct information operations will be one of our biggest challenges in the period ahead. Traditional defensive information warfare operations include physical security measures and encryption. Nontraditional actions will range from anti-virus protection to innovative methods of secure data transmission. In addition, increased strategic level programs will be required in this critical area.

#### ***Conduct of Joint Operations***

Our forces have been largely organized, trained and equipped to defeat military forces of our potential adversaries. Direct

British Gurkha soldiers train in a mock city at Camp Lejeune, N.C., during Combined Joint Task Force Exercise 96 in May. The exercise saw more than 53,000 American and British troops train together along the Eastern Seaboard.



The Air Force's F-22 air-superiority fighter is a near-future addition to America's aviation arsenal.

combat against an enemy's armed forces is the most demanding and complex set of requirements we have faced. Other operations, from humanitarian assistance in peacetime through peace operations in a near-hostile environment, have proved to be possible using forces optimized for wartime effectiveness.

#### ***Operational Perspectives***

Technological advances will magnify the advantages provided by our high-quality force. The promise provided by these technologies is best viewed from an operational perspective. In the past, our capabilities often required us to physically mass forces to neutralize enemy power. The time needed to build up and employ massed combat forces, including the platforms, weapons and associated logistics, required to achieve success resulted in military operations that were largely sequential in nature and tactics which too often saw ground, maritime and air forces massed in time and space.

By 2010, we should be able to change how we conduct the most intense joint operations. Instead of relying on massed forces and sequential operations, we will achieve massed effects in other ways.

Information superiority and advances in technology will enable us to achieve the desired effects through the tailored application of joint combat power. Higher lethality weapons will allow us to conduct attacks

concurrently that formerly required massed assets, applied in a sequential manner. With precision targeting and longer range systems, commanders can achieve the necessary destruction or suppression of enemy forces with fewer systems, thereby reducing the need for time-consuming and risky massing of people and equipment.

Improved command and control, based on fused, all-source, real-time intelligence, will reduce the need to assemble maneuver formations days and hours in advance of attacks. Providing improved targeting information directly to the most effective weapon system will potentially reduce the traditional force requirements at the point of main effort.

All of this suggests that we will be increasingly able to accomplish the effects of mass — the necessary concentration of combat power at the decisive time and place — with less need to mass forces physically than in the past. This will enhance our combat capabilities against opposing military forces. To be sure, this will not obviate the ultimate need for "boots on the ground" in many operations, nor will it relieve our service men and women of the need to be physically present at the decisive points in battle or in other operations, or to be exposed to conditions of great danger and hardship.

However, in all operations technological advances and our use of information will give our warfighters at the individual, crew and small-unit levels major qualitative advantages over potential adversaries. Our forces will be able to sense dangers sooner. They will have increased awareness of the overall operational environment, including the situation of friendly forces, allowing them to make better decisions more rapidly. They will have an enhanced ability to produce a range of desired effects by bringing together the correct mix of assets at the place and time most favorable to success.

When tied to a more rapid resupply, reinforcement and re-engagement capability, our forces will be better able to provide the best response at less risk to themselves, based on the mission objectives and circumstances of the battlespace. Whether operating from dispersed locations or in close proximity to each other, the confidence of each individual warfighter or crew will be bolstered by enhanced connectivity to comrades, supporting elements

and higher commands.

In sum, by 2010 we should be able to enhance the capabilities of our forces through technology. This will, in turn, expand our greatest advantage: the adaptability, initiative, teamwork and commitment of our people at every level.

To exploit the enormous potential of technology, we must develop in a systematic manner the full range of required enhancements. This process must begin with a new conceptual framework for operations.

The basis for this framework is found in the improved command, control and intelligence which can be assured by information superiority. These are the most straightforward applications of much of the new technology; however, the full impact of these technologies is more profound. Enhanced command and control and much improved intelligence, along with other applications of new technology, will transform the traditional functions of maneuver, strike, protection and logistics.

These transformations will be so powerful that they become, in effect, new operational concepts: dominant maneuver; precision engagement; full dimensional protection; and focused logistics. These operational concepts will provide our forces with a new conceptual framework.

### **Dominant Maneuver**

Dominant maneuver will be the multidimensional application of information, engagement and mobility capabilities to position and employ widely dispersed joint air, land, sea and space forces to accomplish the assigned operational tasks. Dominant maneuver will allow our forces to gain a decisive advantage by controlling the breadth, depth and height of the battlespace.

Through a combination of asymmetric leverage, achieved by our positional advantages, as well as decisive speed and tempo, dominant maneuver allows us to apply decisive force to attack enemy centers of gravity at all levels and compels an adversary to either react from a position of disadvantage or quit.

Dominant maneuver will require forces that are adept at conducting sustained and synchronized operations from dispersed locations. They must be able to apply overwhelming force in the same medium and create asymmetric advantages by attacking cross-dimensionally, such as air or sea

against ground or ground and sea against air defenses. These forces must have the ability to outpace and outmaneuver the enemy.

Current systems, enhanced by information superiority, will provide a clearer picture of enemy and friendly locations. Information superiority also will allow joint commanders to coordinate widely dispersed units, receive accurate feedback and execute more demanding, higher precision requirements. Increasingly lethal direct and indirect fire systems, with longer ranges and more accurate targeting, will increase the punch of these forces as they maneuver.

The tailor-to-task organizational ability will provide the additional advantage of self protection — another key element for successfully achieving dominant maneuver. The combination of seamless operations with reduced "buildup time" and a smaller, more widely dispersed footprint will make it much more difficult for an adversary to find and attack our forces. Other defensive measures, low-observable technologies, signature reduction and enhanced deception capabilities will provide similar advantages for protection and improve our chances for mission success.

Altogether, the organizational concept of dominant maneuver is a prescription for more agile, faster moving joint operations, which will combine air, land and maritime forces more effectively to deliver decisive combat power.

Victory will always be measured by the "boots on the ground." Technologically advanced weapons, communications and other martial sciences will reduce the size of the ground forces needed to win, but never totally replace those forces.



### **Precision Engagement**

Precision engagement will consist of a system of systems that enables our forces to locate the objective or target, provide responsive command and control, generate the desired effect, assess our level of success and retain the flexibility to re-engage with precision when required. Even from extended ranges, precision engagement will allow us to shape the battlespace, enhancing the protection of our forces.

Information operations will tie together high-fidelity target acquisition, prioritized requirements and command and control of joint forces within the battlespace. This

Advanced Army tactical missiles give field commanders the ability to attack enemy forces 60 miles away with a rain of explosive submunitions.

combination will provide a greater assurance of delivering the desired effect, lessen the risk to our forces and minimize collateral damage.

Precision engagement will build on current U.S. advantages in delivery accuracy and low-observable technologies. It will use a wide variety of means, including very accurate aerial deliveries or air drops, discriminate weapon strikes and precise, all-weather stand-off capability. Enhanced jointness will ensure greater commonality between service precision engagement capabilities and provide future joint force commanders with a wider array of responsive, accurate and flexible options.

### **Full-Dimensional Protection**

We must also protect our own forces from the very technologies that we are exploiting. Unless we provide an adequate measure of protection for our forces, these new operational concepts will be highly vulnerable to disruption.

We will achieve this required level of protection through the concept called full dimensional protection. The primary prerequisite for full-dimensional protection will be control of the battlespace to ensure our forces can maintain freedom of action during deployment, maneuver and engagement, while providing multilayered defenses for our forces and facilities at all levels.

Full-dimensional protection will enable the effective employment of our forces while degrading opportunities for the enemy. It will be essential, in most cases, for gaining and maintaining the initiative required to execute decisive operations. The concept will be proactive, incorporating both offensive and defensive actions that may extend well into areas of enemy operations.

Full-dimensional protection will be built upon information superiority which will provide multidimensional awareness and assessment, as well as identification of all forces in the battlespace. Information warfare will support this effort by protecting our information systems and processes, while denying an adversary the similar capabilities. Upon this information base, we will employ a full array of active and passive measures at multiple echelons.

Active measures will include battlespace control operations to guarantee the air, sea, space and information superiority that is needed to gain the degree of control to



accomplish the assigned tasks. Active measures will also include an integrated, in-depth theater air and missile defense that will exploit service-unique capabilities to detect, identify, locate, track and deny enemy attacks on our joint forces.

Passive measures will include the inherent protection provided by information superiority and dispersal to increase our warning of attacks. Operational dispersion will further reduce risks to our forces. New sensors and information dissemination systems will be deployed to detect chemical or biological attack at great ranges and provide warning to specific units that may be affected.

Enhanced deception and camouflage measures, increased individual and collective protection and a joint restoration capability against the effects of weapons of mass destruction are also key elements for achieving full dimensional protection.

Most importantly, these active and passive measures will be combined to provide a more seamless joint architecture for force protection, which will leverage the contributions of individual services, systems and echelons. The result will be improved freedom of action for friendly forces and better protection at all echelons against precision attack, weapons of mass destruction and other conventional or nonconventional systems.

### **Focused Logistics**

Each of the preceding concepts relies on our ability to project power with the most capable forces at the decisive time and place. To optimize all three concepts, logistics must be responsive, flexible and precise.

Focused logistics will be the fusion of information, logistics and transportation technologies to provide rapid crisis response, to track and shift assets even while en route and to deliver tailored logistics packages and sustainment directly at the strategic, operational and tactical level of operations. It will be fully adaptive to the needs of our increasingly dispersed and mobile forces, providing support in hours or days vs. weeks. Focused logistics will enable joint forces of the future to be more mobile, versatile and projectable from anywhere in the world.

Logistic functions will incorporate information technologies to transition from the rigid vertical organizations of the past. Modular and specifically tailored combat

service support packages will evolve in response to wide-ranging contingency requirements. Service and defense agencies will work jointly and integrate with the civilian sector, where required, to take advantage of advanced business practices, commercial economies and global networks. Active and reserve combat service support capabilities, prepared for complete integration into joint operations, will provide logistic support and sustainment as long as necessary.

Information technologies will enhance airlift, sealift and pre-positioning capabilities to lighten deployment loads, assist pinpoint logistics delivery systems and extend the reach and longevity of systems currently in the inventory. The combined impact of these improvements will be a smaller, more capable deployed force. It will require less continuous support with a smaller logistics footprint, decreasing the vulnerability of our logistics lines of communication.

Each of these new operational concepts will reinforce the others and will allow us to achieve massed effects in warfare from more dispersed forces. This synergy will greatly enhance our capabilities in high-intensity conventional military operations.

However, the synergy of these four concepts transcends intense conventional warfighting. Without overspecialization, the development of these new operational concepts has great potential to fulfill more effectively the full range of tasks assigned to us. That is, taken together these four new concepts will enable us to dominate the full range of military operations from humanitarian assistance, through peace operations, up to and into the highest intensity conflict.

Information superiority will provide a commander with enhanced awareness of his area of responsibility, whether his objective is to close with and engage an adversary or render assistance in a humanitarian operation. Surveillance, reconnaissance and knowledge of the precise location of dispersed friendly forces with the ability to direct effectively their efforts are applicable for all military tasks.

Likewise, the tactical mobility required for dominant maneuver which enables our forces rapidly to move into position to overwhelm an enemy will also allow commanders to place forces in positions of control in counterdrug, counterterrorism or

peacekeeping operations. Precision engagement capabilities designed for warfighting tasks will also enable greater discrimination in the application of force against an emerging threat during peace enforcement operations.

### **Vulnerability Limited**

Full-dimensional protection will allow freedom of action for our forces and limit their vulnerability during combat and noncombat operations. Focused logistics will ensure delivery of the precise amount and types of supplies required for our joint forces to succeed in combat or noncombat operations.

Although the positive implications for enhancing our capabilities across the range of military operations seem obvious, we cannot assume that all new concepts will be equally valuable in all operations. In intensive combat, target destruction may be essential in the early engagements of an operation, but extensive physical presence may later be necessary to accomplish the assigned mission. This presence may be required to fully neutralize enemy forces, deal with prisoners and potentially hostile populations, or otherwise assure that success in attacking targets is followed through to achieve the overall objectives of the operation.

For noncombat operations, physical presence will likely be even more important. Thus, we must ensure that capturing the new technologies does not overspecialize the force. We must retain balanced and sustainable capabilities. We recognize that, regardless of how sophisticated technology becomes, the individual warfighter's judgment, creativity and adaptability in the face of highly dynamic situations will be essential to the success of future joint operations.

The human element is especially important in situations where we cannot bring our technological capabilities fully to bear against opponents who seek to nullify our technological superiority by various means. In these cases, our success will depend, as it has historically, upon the physical, intellectual and moral strengths of individual soldiers, sailors, airmen and Marines — especially their adaptability in the face of the unexpected.

To sustain the armed forces and instill these new operational concepts will require high-quality people — the key ingredient for

success. The judgment, creativity and fortitude of our people will remain the key to success in future joint operations. Turning concepts into capabilities requires adapting our leadership, doctrine, education and training, organizations and materiel to meet the high-tempo, high-technology demands posed by these new concepts.

Thus, recruiting and retaining dedicated high-quality people will remain our first priority. Only a force that has the courage, stamina and intellectual ability to cope with the complexity and rapid pace of future joint operations will have the capability to achieve full-spectrum dominance.

We cannot expect risk-free, push-button style operations in the future. Military operations will continue to demand extraordinary dedication and sacrifice under the most adverse conditions. Some military operations will require close combat on the ground, at sea or in the air. The courage and heart of our soldiers, sailors, airmen and Marines will remain the foundation of all that our armed forces must do.

The dynamic nature of joint operations in the 21st century battlespace will require a continued emphasis on developing strong leadership skills. While we must do everything possible to leverage the power of advanced technologies, there are inherent limitations. Confronting the inevitable friction and fog of war against a resourceful and strong-minded adversary, the human dimension including innovative strategic and operational thinking and strong leadership will be essential to achieve decisive results. Effective leadership provides our greatest hedge against uncertainty.

We will build upon the enduring foundation of functional expertise, core values and high ethical standards. Our future leaders at all levels of command must understand the interrelationships among military power, diplomacy and economic pressure, as well as the role of various government agencies and nongovernmental actors, in achieving our security objectives. They will require a sophisticated understanding of historical context and communication skills to succeed in the future.

The evolution of command structures, increased pace and scope of operations and the continuing refinement of force structure and organizations will require leaders with a knowledge of the capabilities of all four services. Without sacrificing their basic



service competencies, these future leaders must be schooled in joint operations from the beginning of their careers.

#### **Complexity Demands Skill**

This leadership development must begin rigorous selection processes and extend beyond formal education and training. Hands-on experience in a variety of progressive assignments must stress innovation, dealing with ambiguity and a sophisticated understanding of the military art. In short, our leaders must demonstrate the very highest levels of skill and versatility in ever more complex joint and multinational operations.

As we change the way we fight, joint doctrine will remain the foundation that fundamentally shapes the way we think about and train for joint military operations. Joint doctrine is a critical ingredient for success because the way in which leaders think and organize their forces will be as important as the technology we use to conduct future joint operations.

Future joint doctrine must articulate the process required for successful joint planning but must be flexible enough to serve as a broad framework to guide our forces in

joint and multinational operations. It is the key to enhanced jointness because it transforms technology, new ideas and operational concepts into joint capabilities.

We will discover new ways to change the development process for joint doctrine. Thus, we must integrate "top-down" doctrine throughout the development cycle, while continuing to ensure that joint doctrine fully incorporates the strengths that each service brings to joint warfare.

Our education and training programs must prepare joint warriors to meet the challenges of the future battlespace. These programs must emphasize employment of new technologies and achieving the operational concepts outlined in this vision. It is essential that our Joint Professional Military Education programs provide our warfighters with an understanding of strategic concepts in the future environment where military force will be applied, as well as an in-depth understanding of individual service systems and how the integration of these systems enhance joint operations.

#### **Joint Capabilities Emphasized**

The requirement for high-quality, realistic and stressful training that amplifies edu-

The USS George Washington returns home to Norfolk, Va., in July after a six-month deployment. The carrier operated in the Adriatic Sea supporting Operation Joint Endeavor in Bosnia and in the Arabian Gulf supporting Operation Southern Watch over Iraq.

tion and fully prepares our forces for joint operations is similarly important. We must emphasize integration of joint capabilities and develop skills that increase individual and organizational effectiveness. Our training must reflect emerging threats and include both information saturation and total interruption of information flow.

Enhanced modeling and simulation of the battlespace, when coupled to on-the-ground evaluation with real soldiers, sailors, airmen and Marines, can improve the realism of training, upgrade the levels of day-to-day readiness and increase our opportunities to test innovative concepts and new strategies. Simulations must be interconnected globally, creating a near-real-time interactive simulation superhighway between our forces in every theater.

Each combatant commander must be able to tap into this global network and connect forces worldwide that would be available for theater operations. This network will allow selected stateside units to train with forces in an overseas theater without actually deploying there. Similarly, we will pursue improvements in our campaign modeling and analysis to exploit the concepts of this vision.

This global simulation network must include our Reserve and National Guard units, as well as selected multinational

partners, to increase their readiness and interoperability.

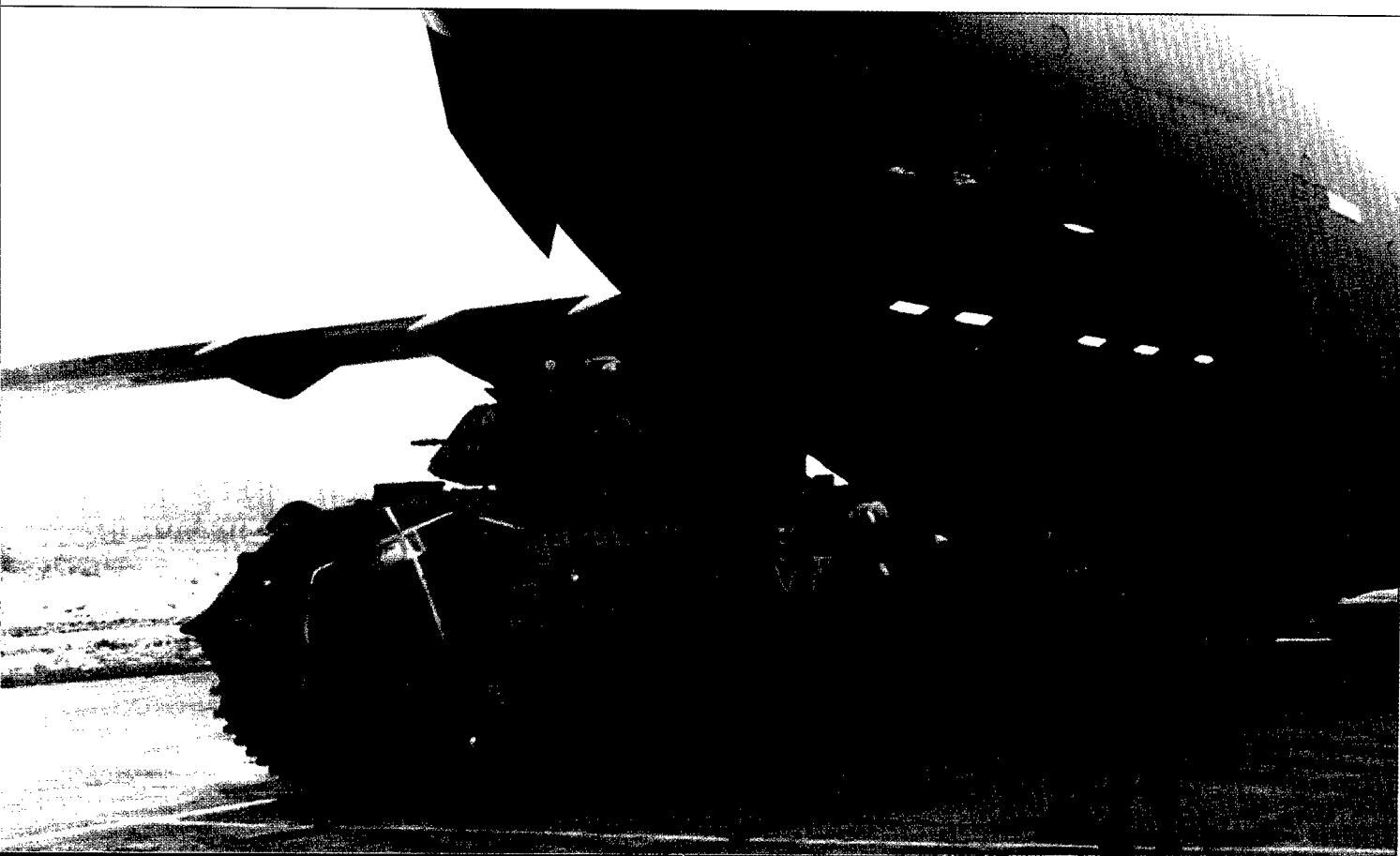
In order to make optimum use of the technologies and operational concepts discussed earlier, we must carefully examine the traditional criteria governing span of control and organizational layers for the services, commands and defense agencies. We will need organizations and processes that are agile enough to exploit emerging technologies and respond to diverse threats and enemy capabilities. As we move forward, we may require further reductions in supervision and centralized direction.

All organizations must become more responsive to contingencies, with less "startup" time between deployment and employment. Because we rely on the total force to provide the full range of military capabilities, we also require responsive Reserve components that can rapidly integrate into joint organizations.

Increased organizational flexibility will enhance our responsiveness. We will seek organizations that can support flexible force packaging and work to smooth the process further.

Since most of the platforms expected to be in service in 2010 are already designed or operational, we will emphasize high-leverage, leading-edge technology enhancements to increase our capabilities. We will also

A Bradley fighting vehicle disembarks from the gaping maw of an Air Force jet transport. Strategic mobility—America's ability to move large numbers of people and their equipment wherever and whenever they are needed—is a critical factor in national defense planning.



place greater emphasis on common usage between services and increase interoperability among the services and multinational partners.

We will need a responsive research, development and acquisition process to incorporate new technologies. This process must leverage technology and management innovations originating in the private sector through responsive access to commercial developments.

### **Implementing the Vision**

We must proceed with implementing Joint Vision 2010 in a way that captures the promise of these new concepts while sustaining our readiness and flexibility through every step of this evolution.

The implementation plan will involve combatant commanders, services and joint organizations. Each element must participate in developing and testing these new concepts and their overall integration. Modeling, demonstrations, simulations, technology war games and joint exercises will help assess and validate these concepts, as well as assist in developing new operational procedures and organizations.

The implementation process will integrate ongoing initiatives, such as the Joint Requirements Oversight Council, Joint Warfighting Capabilities Assessments and advanced capabilities technology demonstrations, to promote the integrated development of operational capabilities. Concurrently, joint education and doctrinal development must keep pace.

As we implement this vision, affordability of the technologies envisioned to achieve full spectrum dominance will be an important consideration. While we anticipate that some significant improvements in capability may be gained economically, for example through dual-use technologies for command, control, communications, computers and intelligence, others will be more difficult to achieve within the budget realities that exist today and will exist into the next century. We anticipate the need to be selective in the technologies we choose and thus expect continuing assessment and adjustments for affordability as well as for other lessons learned during the implementation process.

Achieving the full promise of this vision will largely depend on how well we structure our defense program. We will have to make hard choices to achieve the tradeoffs that

will bring the best balance, most capability and greatest interoperability for the least cost. Ultimately, we will have to measure continuously the affordability of achieving full spectrum dominance against our overarching need to maintain the quality of our forces, their readiness and the force structure needed to execute our operational tasks between now and the year 2010.

As we implement this vision, we must acknowledge that strong leadership, warfighting skill and innovative thinking will be central to developing the detailed requirements and decision points. Our organizational climate must reward critical thinking, foster the competition of ideas and reduce structural or cultural barriers to innovation. Both in peace and war, the creative talents of our men and women provide us a critical advantage over those who would consider challenging us or our allies.

### **Conclusion**

Today, America's armed forces are the world standard for military excellence and joint warfighting. We will further strengthen our military capabilities by taking advantage of improved technology and the vitality and innovation of our people to prepare our forces for the 21st century.

Joint Vision 2010 creates the template to guide the transformation of these concepts into joint operational capabilities. It serves as the basis for focusing the strengths of each individual service or component to exploit the full array of available capabilities and allow us to achieve full spectrum dominance. It will also guide the evolution of joint doctrine, education and training to assure we will be able to achieve more seamless joint operations in the future.

As we pursue this vision, we must remain mindful of our responsibilities: to prevent threats to our interests from emerging, deter those that do and defeat those threats by military force if deterrence fails. In 2010, we will meet these responsibilities with high-quality people and leaders, who are trained and ready for joint operations and able to exploit high-technology equipment. Even during a time of unparalleled technological advances we will always rely on the courage, determination and strength of America's men and women to ensure we are persuasive in peace, decisive in war and pre-eminent in any form of conflict. ▼



**Gen. John M.  
Shalikashvili, USA**

Shalikashvili assumed duties as the 13th chairman of the Joint Chiefs of Staff on Oct. 25, 1993. Prior to this, he had been supreme allied commander Europe, and commander in chief of U.S. European Command since June 23, 1992. Drafted in 1958, he earned a commission through Officer Candidate School in 1959. He has served in a variety of command and staff positions in Alaska, the continental United States, Germany, Vietnam and Korea. Other recent assignments include deputy commander in chief, U.S. Army Europe and Seventh Army; commander, Operation Provide Comfort, the Kurdish relief operation in Northern Iraq; and assistant to the chairman. Shalikashvili holds a bachelor's from Bradley University, Peoria, Ill., and a master's from George Washington University, Washington, D.C. His decorations include the Defense Distinguished Service Medal, Distinguished Service Medal and Bronze Star Medal with valor device.

# Defense Women Lead the Way

**DOD HAS A HISTORY OF INCLUDING WOMEN** in the branches of the armed services. This inclusion of women in managerial and professional occupations has been ahead of American society in many respects.

In 1973, when the all-volunteer force was enacted, uniformed women were 2.46 percent of the force. Today, military active duty women represent 12.6 percent of the force. DoD also has 304,796 civilian women employees, including 16,111 middle and senior managers and 151 Senior Executive Service members.

Despite the largest downsizing in history, representation of women and minorities continues to improve. While the total size of the civilian work force has decreased by more than 279,000 positions from 1989 to 1995, minority and female representation among the civilian ranks is improving.

The DoD family of women includes more than just those in uniform and DoD employees. Other constituencies include 757,164 wives of active duty military members and about half their 1,373,978 children.

DoD provides for the education of 114,000 students worldwide in 135 schools in 14 countries. We are also the nation's largest affordable employee-sponsored child care program. DoD provides care to over 200,000 children daily at 346 locations. Therefore, programs and budget decisions incorporate the needs of these constituencies.

The U.N. Fourth World Conference on Women developed actions to achieve women's empowerment and to reaffirm the human rights of women and the girl child. The report categorized the objectives into 12 critical areas of concern. DoD has initiated many parallel policy changes. Below are the conference objectives and an overview of DoD actions.

#### **Women and Poverty**

*Strategic Objective A1.* Review, adopt and maintain macroeconomic policies and development strategies that address the needs and efforts of women in poverty.

□ DoD Instruction 1344.12, dated November 1994, assists wives in garnishing pay to facilitate child support enforcement. DoD has published the names and addresses of points of contact to facilitate child support enforcement. This effort is in compliance with Executive Order 12593 signed by the president.

□ DoD has 200 trained employment assistance managers worldwide to assist spouses (over 90 percent are women) develop skills and identify employment opportunities in the private sector.

□ DoD is seeking support to extend the Special Supplemental Food Program for Women, Infants and Children to eligible military women, and military wives and children of sponsors assigned overseas.

*Strategic Objective A2.* Revise laws and administrative practices to ensure women's equal rights and access to economic resources.

□ The DoD Civilian Equal Employment Opportunity Program focuses on increasing women's representation in middle and senior management positions through developmental positions and job restructuring.

□ DoD has an outreach and mentoring initiative to develop an adequate resource pool of women for managerial and executive positions.

□ DoD uses management tools such as flexible work schedules, part-time employ-

ment and flexiplace to maximize the opportunity for employment of individuals with family responsibilities.

□ DoD authorized the use of leave without pay to assist military spouses (mostly wives) in obtaining federal employment at the new duty location without loss of benefits.

*Strategic Objective A3.* Provide women with access to savings and credit mechanisms and institutions.

□ All DoD employees and military members and families are eligible based on their beneficiary status to become members and have access to federal credit unions.

*Strategic Objective A4.* Develop gender-based methodologies and conduct research to address the feminization of poverty.

Military career opportunities for women have changed completely in 20 years. Comprising less than 3 percent of the active force in 1973 and restricted to a relative handful of job specialties, women today are 12.6 percent of the force and find virtually all fields wide open.



Senior Airman Randy S. Mailard, USAF



Les Nouvelles

DoD is the nation's largest employer of women; nearly 200,000 are on active duty, 135,000 in the reserve components, and 300,000 on civilian employee rolls.

□ DoD has initiated a research effort to study the employment barriers impacting about 145,000 junior spouses, mainly wives. This research effort will identify strategies that will best assist junior spouses gain employment.

#### ***Education and Training***

***Strategic Objective B1. Ensure equal access to education.***

□ The aid societies of the Air Force and Navy offer tuition assistance programs for spouses of active duty members overseas. The program encourages the completion of degree or certificate programs to increase occupational opportunities for spouses.

□ The Women's Educational Equity Act is a federal education program created specifically to promote educational equity for women and girls.

□ Certain Army and Air National Guard, and Air Force and Coast Guard Reserve elements authorize spouses to take College Level Examination Program tests at local colleges and universities. These tests are in conjunction with the Defense Activity for Nontraditional Education Support and will end December 1996.

***Strategic Objective B2. Eradicate illiteracy among women.***

□ All DoD-sponsored education and training opportunities are open equally to men and women. However, in compliance with the secretary of defense guidance, additional attention is focused to ensure women are included in developmental opportunities.

***Strategic Objective B3. Improve women's access to vocational training, science and technology and continuing education.***

□ DoD is the nation's largest employer of women. DoD employs over half a million women. There are about 191,400 active duty women, 134,930 in the reserve components and 304,800 civilian women. There are also 757,164 wives of active duty military members for whom extensive benefits and programs are extended.

□ Anita Jones is the first woman in DoD to hold the position of director of defense research and engineering.

□ DoD has 7,633 women in science and technology fields.

□ The DoD Federal Women's Program is designed to enhance the employment and advancement of women. Program managers are designated in organizations throughout the department. The program includes support for and participation in national conferences and special observances such as the annual Federally Employed Women's conference and Women's History Month.

□ DoD has expanded opportunities for women in pilot training. In 1993, combat aircraft were open to women. The Navy has 137 women pilots, and 127 pilots or naval flight officers in training for the aviation officer designation. The Army has 38. The Air Force has 10. The Marine Corps has one women pilot and 11 in training. The Navy has 87 women pilots in training and 40 naval flight officers in training. The Air Force has three women in training.

***Strategic Objective B4. Develop nondiscriminatory education and training.***

□ Women will increasingly assume leadership and decision-making positions since nontraditional military positions have been expanded to include women — 91 percent of all Army career fields are open to women, as are 96 percent of Navy career fields, 93 percent in the Marine Corps and

99 percent in the Air Force.

□ Each of the military departments provides high school students with opportunities to receive leadership and job skills training along with their normal academic education. About half the 300,000 students enrolled nationwide are female.

*Strategic Objective B5.* Allocate sufficient resources for and monitor the implementation of educational reforms.

□ DoD has 291 family center programs worldwide, which provide skills training, financial management, premarital and marital counseling and alcohol and drug abuse prevention programs.

*Strategic Objective B6.* Promote lifelong education and training for girls and women.

□ DoD has special emphasis programs that are integral parts of the Civilian Equal Employment Opportunities Program. The emphasis programs enhance the employment and advancement of women, minorities and people with disabilities.

□ In January 1994, Dionne Cornelius was the first woman recruited into the Navy nuclear field program. This first serves as a model and impetus for the girl child to consider this nontraditional career field.

□ DoD now has legislative authority to provide continuing education benefits to spouses of military members, which has the effect of permitting those stationed overseas to participate in basic skills programs supported by appropriated funds.

□ Overall, 80 percent of officers who retire from the military have a graduate degree, compared to only about 20 percent from the private sector. DoD encourages continuing education by providing tuition assistance and job retraining. The Montgomery GI Bill provides educational and vocational opportunities for all members equally. DoD offers programs that contribute positively to society during public service and beyond.

#### **Women and Health**

*Strategic Objective C1.* Increase women's access throughout the life cycle to appropriate, affordable and quality health care, information and related services.

□ The 1995 Department of Defense Survey of Health Related Behaviors Among Military Personnel reports 95.2 percent of military women have had a Pap smear

within the past three years, 80 percent of the military women who were pregnant within the past five years received prenatal care within the first trimester of that pregnancy, and 73 percent of military women report ease of access to obstetrics and gynecological services in the military.

□ The requirements of the Mammography Quality Standards Act are met by 99.5 percent of DoD health care facilities providing mammography. At age 40, active duty women undergo baseline mammography, which is also offered to eligible beneficiaries. After age 50, annual mammograms are performed. Screening schedules can be modified according to individual risk factors, as determined by the health care provider.

□ The implementation of the DoD TRICARE program of managed care will improve access to medical care while ensuring quality of care through the use of established medical care guidelines and assessment.

□ Health promotion programs are available throughout DoD, including tobacco cessation, physical fitness, nutritional counseling, alcohol and substance abuse prevention, and cancer and cardiovascular disease prevention. Health fairs, media campaigns, health brochures and educational classes are offered.

□ All uniformed women have pelvic exams during accession physicals. Service regulations require all active duty women to have annual Pap smears and clinical breast examinations. Pap smears begin with the onset of sexual activity or at age 18 and are repeated every one to three years at the physician's discretion.

□ Military personnel are required to obtain immunizations to protect them from diseases unique to military life or training. All eligible beneficiaries, wives and children and DoD civilian employees stationed outside the United States have access to routine immunizations within the military treatment facilities and TRICARE, including annual influenza and pneumococcal vaccines when indicated.

□ The Army is researching and developing special women's health and hygiene care for deployment in the field.

*Strategic Objective C2.* Strengthen preventive programs that promote women's health.

□ Well-woman clinics have been established at many local treatment facilities to

consolidate preventive services such as pelvic and breast exams, Pap smears, same day mammography, family planning counseling and services, estrogen replacement therapy counseling and provision, screening of blood pressure, weight and body mass index determinations, cholesterol screening and health education. These clinics are often staffed after hours and on weekends.

□ As a preventive strategy, military women are routinely offered counseling on family planning and contraception alternatives. Sexually active women who do not want to become pregnant receive detailed counseling on contraception alternatives, family planning counseling and information on sexually transmitted diseases.

□ DoD health promotion policy is an integral part of clinical preventive medicine. Health promotion is designed to facilitate behavior changes that will improve or protect health. Health promotion programs involve lifestyle issues that influence health such as tobacco cessation, physical fitness, improved nutrition, stress management, cancer and cardiovascular disease prevention, and alcohol and drug abuse prevention. DoD is involved in the Department of Health and Human Services' Healthy People 2000 program.

□ DoD's family centers provide information and referral to military and civilian community resources for military members and their families. Referrals and assistance include help with employment, wellness programs and preventive programs, such as stress management.

*Strategic Objective C3.* Undertake gender-sensitive initiatives that address sexually transmitted diseases, HIV/AIDS, and sexual and reproductive health issues.

□ The 1995 Department of Defense Survey of Health Related Behaviors Among Military Personnel surveys factors related to sexually transmitted disease reduction, including an assessment of knowledge, attitudes, beliefs and risk reduction behaviors stratified by service, age and gender. This survey reports only 31.5 percent of military women who are unmarried and sexually active used a condom at their last sexual encounter.

□ All uniformed personnel are required to undergo HIV/AIDS testing on a systemic basis. A DoD-wide effort was initiated to counsel all DoD civilian and military em-

ployees on HIV/AIDS. Commands have provided printed informational material and brochures to continually educate the force.

□ Sexually active military women are counseled during their annual examinations about family counseling and information on sexually transmitted diseases.

*Strategic Objective C4.* Promote research and disseminate information on women's health.

□ Future research within the Defense Women's Health Research Project will be directed according to the 1995 recommendations of the Institute of Medicine of the National Academy of Sciences. The four identified areas of research and a currently funded project within each category are:

— Factors affecting health and work performance, Naval Health Research Center study "Countermeasures to Heat Stress in Women";

— Psychological and health issues related to integration of women into a hierarchical male environment or related to women and men living and working together in close quarters, Walter Reed Army Institute of Research "Integration of Women Into Military Units: Impact of Gender Bias and Sexual Harassment";

— Health promotion and disease prevention, U.S. Army Institute of Environmental Medicine "Assessment of Iron Status and Dietary Intake of Female Army Soldiers";

— Access to and delivery of health care, Brooks Air Force Base, Texas, "Availability, Accessibility and Adequacy of Health Care Provided to USAF Active Duty Women During Operation Desert Shield/Desert Storm."

□ A women's health information clearinghouse has been developed in collaboration with the Office of Women's Health, Department of Health and Human Services, to serve as an informational resource for medical and scientific information on women in the services.

□ Defense Women's Health Research Program was established in the fiscal 1994 defense authorization act. The program establishes a coordinating office for multidisciplinary and multi-institutional research within DoD on women's health issues related to service in the armed forces.

□ Funding has been approved under the Defense Women's Health Research Program to study female acceleration tolerance

enhancement, effects of gender to altitude decompression sickness and urination in the cockpit.

□ The Air Force Reproductive Hazards Initiative Group at Brooks Air Force Base will develop a technical report on guidelines for handling reproductive concerns in the workplace. The guidelines will establish policy for pregnant women or women considering pregnancy. For example, the guidelines will recommend women exposed to chemical or biological pollutants be placed in a less hazardous environment.

□ The Air Force Office of Prevention and Health Services Assessment is conducting a study, "Injury and Illness Among Air Force Female Military Recruits," to identify and compare types and frequency of injury and illness among female and male recruits.

□ The Navy conducts research on the unique requirements of health care for women on ships.

□ DoD has well-established guidelines for medical and legal procedures in treating victims of rape, including treatment for psychological trauma.

**Strategic Objective C5.** Increase resources and monitor follow-up for women's health.

□ The annual Department of Defense Survey of Health Related Behaviors Among Military Personnel includes a designated section to follow women's health issues, including assessing perceptions of quality of care and access to care.

□ The fiscal 1995 appropriation for the Defense Women's Health Research Program was \$40 million.

#### **Violence Against Women**

**Strategic Objective D1.** Take integrated measures to prevent and eliminate violence against women.

□ The Military Family Clearinghouse collects and maintains family advocacy-related resource and research materials including comprehensive bibliographies on assault/rape/harassment, spouse abuse and child abuse. These materials are available by request.

□ The Victim and Witness Assistance Program, as administered by the under secretary of defense for personnel and readiness, provides assistance to victims of serious, violent crime, including child abuse, domestic violence and sexual misconduct.



Sgt. Angel Clemons, USA

□ The DoD Victim and Witness Assistance Council is the liaison with the Department of Justice Office for Victims of Crime and is the forum for exchange of information concerning victim and witness policies.

□ The Army distributes a commander's desk guide as an educational resource to ensure commanders are aware of the nature of spouse and child abuse and means of prevention; family advocacy program policies, procedures and services; and command responsibilities for identification of incidents with mandatory reporting and subsequent coordination with the family advocacy case management team.

□ The Air Force conducts annual community needs assessment through a family advocacy outreach program management team.

□ DoD has initiated a comprehensive victim/witness assistance program to ensure all victims, including women, are advised of their rights and resources during each stage of the entire criminal justice process.

□ DoD's goal of imparting knowledge and increasing public awareness of spouse battering and abuse has resulted in increased numbers of victim self-reports.

□ DoD research revealed abuse offenders are overwhelmingly enlisted males. This information provides DoD ways to better target preventive and educational efforts to

Spc. Amanda Griffin edits her troop newspaper in Taszar, Hungary, in support of Operation Joint Endeavor. About 5.6 percent of U.S. Army soldiers deployed to the Bosnia peacekeeping mission are women.

potential abusers.

□ An integrated prevention approach in DoD includes training in the management of conflict, finances and stress; premarital and marital counseling; new parent support program; and alcohol abuse prevention.

□ The Marine Corps has implemented a multidisciplinary "Coordinated Community Response" to violence against women. Senior leadership personnel are leading prevention and intervention efforts.

*Strategic Objective D2.* Study the causes and consequences of violence against women and the effectiveness of preventive measures.

□ The assistant secretary of defense for force management policy published family advocacy program standards and a self-assessment tool to provide specific objectives and a method of assessment for use at the installation level. These standards address all aspects of the DoD family advocacy program including preventive services and program evaluation.

□ The Navy family advocacy program has developed a risk assessment matrix and handbook for use in child neglect and child or spouse abuse cases. This model is currently undergoing worldwide pilot testing at eight sites. Use of the matrix assesses the severity of the incident, the risk of future harm and attempts to identify families in need of services.

□ Two DoD studies have addressed the issue of spouse and child abuse: The Abuse Victims Study, published in 1994, provided demographic characteristics of victims and perpetrators, extent of abuse, disincentives to report abuse and assistance available through the family advocacy program services; and an ongoing study of spousal abuse involving members of the armed forces will describe possible causes, discussion of the existing procedures for responding to incidents and their effectiveness, a review of programs to curtail abuse and a proposed prevention program.

□ The DoD new parent support program provides prenatal support, counseling and home visits after birth to both the mother and father in "at risk" families. Preliminary evaluations indicate this program reduces spouse and child abuse.

□ A senior-level Pentagon task force cochaired by Air Force Secretary Sheila Widnall identified strategies to eliminate

sexual harassment and other forms of discrimination in the work force.

□ Navy research identifies young men and women predisposed to violence and is developing preventive measures training at accession.

#### ***Women and Armed Conflict***

*Strategic Objective E1.* Increase the participation of women in conflict resolution at decision-making levels and protect women living in situations of armed and other conflicts or under foreign occupation.

□ The defense adviser to the U.S. Mission to NATO is a woman.

□ Women officers attend senior service colleges and participate in wargaming exercises.

□ Service women participate as military observers and in their peacekeeping units abroad in contingency operations.

□ As of February 1996, approximately 5.6 percent of the Army soldiers deployed to the Bosnia peacekeeping mission are women.

*Strategic Objective E2.* Reduce excessive military expenditures and control the availability armaments.

□ Current downsizing efforts in DoD have resulted in a reduction in strategic arms and weapon systems. The results of the START and SALT strategic arms control treaties have reduced the amount of funding expended on armaments and reduced the growth of the defense budget.

*Strategic Objective E3.* Promote nonviolent forms of conflict resolution and reduce the incidence of human rights abuse in conflict situations.

□ DoD has made a significant commitment to peace in Bosnia and Herzegovina with its deployment of forces to enforce the Dayton agreements.

*Strategic Objective E4.* Promote women's contribution to fostering a culture of peace.

*Strategic objective E5.* Provide protection assistance and training to refugee women, other displaced women in need of international protection and internally displaced women.

□ Military members sent in support of the Bosnia mission have the task of protecting refugees, particularly displaced women and children.

**Strategic Objective E6.** Provide assistance to the women of the colonies and nonself-governing territories.

□ DoD cooperates with the efforts to bring to justice those guilty of war crimes.

□ The Hague and Geneva Convention require military, civilian and contractor personnel to be aware of its provisions and protections when entering an international zone of conflict or peacekeeping.

#### **Women and the Economy**

**Strategic Objective F1.** Promote women's economic rights and independence, including access to employment, appropriate working conditions and control over economic resources.

□ DoD established special emphasis programs to enhance the employment and advancement of minorities, women and people with disabilities. These programs are integral parts of the Civilian Equal Employment Opportunity Program.

□ DoD provides budgetary counseling to families of deploying units to encourage responsible debt reduction and prevention strategies for their personal financial management.

**Strategic Objective F2.** Facilitate women's equal access to resources, employment, markets and trade.

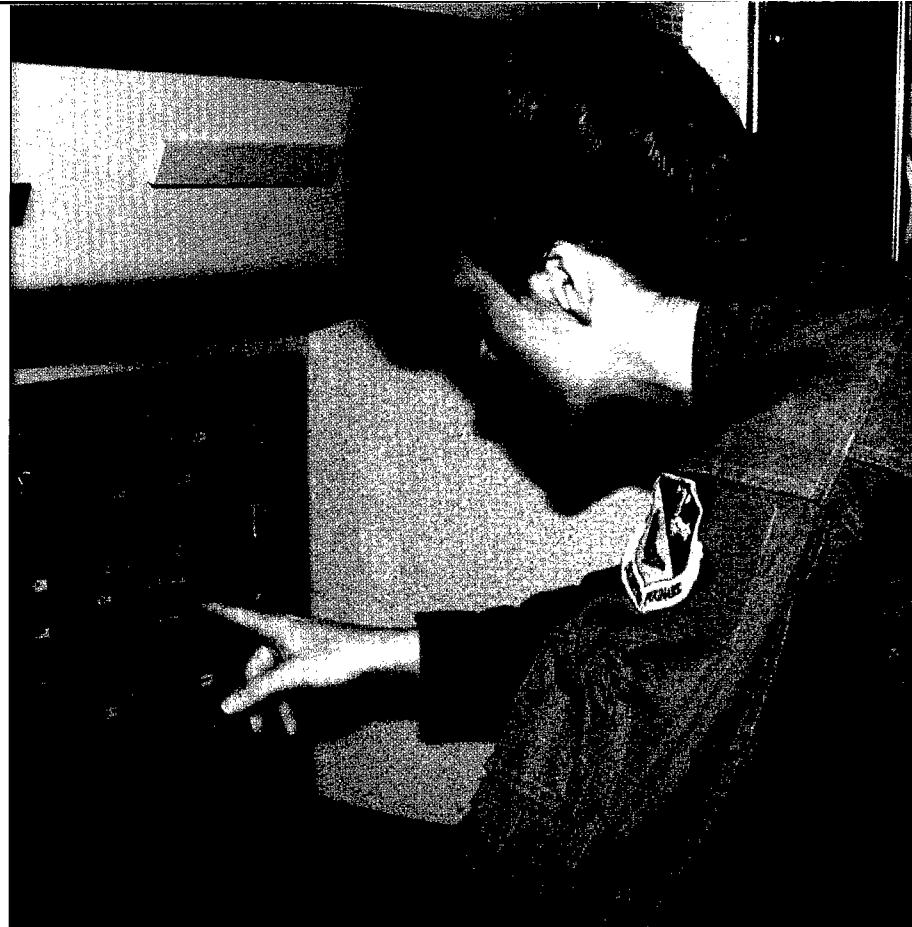
□ DoD is the nation's largest employer of women. DoD employs 631,127 women — 191,399 on active duty, 134,932 in the reserve components and 304,796 as civilian employees. There are also 757,164 wives of active duty military for whom extensive benefits and programs are extended.

□ DoD has approximately 200 trained employment assistance managers worldwide. These managers develop employment and training opportunities in the private sector and educational and volunteer opportunities for spouses.

□ Sixty five percent of military spouses are in the labor force (over 90 percent of civilian spouses are women married to active duty men).

□ Spouses with access to an on-installation employment assistance program have a 59 percent participation rate in the labor force compared to a 46 percent participation rate if no program is available.

**Strategic Objective F3.** Provide business services, training and access to markets,



information and technology, particularly to low-income women.

□ The DoD volunteer program assists spouses in learning new skills and enhancing their skills and knowledge to become better prepared to seek paid employment.

**Strategic Objective F4.** Strengthen women's economic capacity and commercial networks.

□ The DoD acquisition process has an aggressive outreach program to businesses owned by women. DoD provides seminars and procurement conferences to educate women business owners on economic opportunities and procedures within the DoD acquisition process.

□ DoD supports and many DoD civilian women employees belong to the national organization of Federally Employed Women, which enhances the employment and advancement of women. Federally Employed Women sponsors an annual national training program with workshops, which include career planning and development, leadership dynamics, a congressional update and personal issues. The 1996 organization's initiative is a nationwide women's voter project to educate women on the power of their votes.

Women can serve in 99 percent of Air Force career fields, including in coveted billets as combat pilots and in air crew specialties.



The late Defense Secretary Les Aspin rescinded the 1988 "risk rule," a step which redefined women's career opportunities in the military.

**Strategic Objective F5.** Eliminate occupational segregation and all forms of employment discrimination.

□ In 1994, the late Defense Secretary Les Aspin announced the new policy regarding women in combat which rescinded the 1988 "risk rule" and replaced it with a less restrictive ground combat policy. Women are now serving in critical positions formerly closed to them.

For example, women serve as pilots and navigators, tanker operators, combat aircraft and airlift service operators. They serve at sea in all levels of command aboard combatant vessels including operations, logistics, intelligence and flying combat mission aircraft from aircraft carriers; as of December 1995, women were embarked on 40 combatant naval ships. Women Marines are assigned to Marine expeditionary unit command elements, all helicopter squadrons, Harrier squadrons, Marine air support squadrons and the Marine expeditionary unit service support groups. Over 99 percent of all Air Force career fields and positions are open to women.

**Strategic Objective F6.** Promote harmonization of work and family responsibilities for women and men.

□ DoD uses management tools such as flexible work schedules, part-time employment and flexiplace to maximize the opportunity for employment of individuals with family responsibilities.

□ DoD authorized the use of leave without pay to assist military spouses (mostly wives) in obtaining federal employment at the new duty location without loss of benefits.

□ The Army Family Team Building

Program orients new families (mostly wives) to the Army. The program offers progressive training to become more resilient and self-reliant.

□ Through DoD's 291 family centers located worldwide, educational programs and seminars are provided to educate and assist family members, across the life cycle, in balancing the competing demands of work and family. The service family centers promote seminars and sessions that encourage mothers and fathers to be involved in child-rearing responsibilities.

□ DoD supports the use of the Family Medical Leave Act for care of family members and in the adoption of a child. Military women are granted convalescent leave after the birth of a baby. Military fathers are also granted leave.

□ DoD has the nation's largest affordable employer-sponsored child care program with over 16,000 employees and child care at 346 locations worldwide. DoD provides for care of over 200,000 children daily from birth to age 12 in child development centers, family child care homes and school age programs. DoD has 308 nationally accredited centers; 99 percent are certified and the rest operate under valid waivers. DoD wages for care providers, predominately women, are between 72 and 110 percent of industry standards. The centers use an anti-bias curriculum to develop each child to his or her potential.

**Women in Power**

**Strategic Objective G1.** Take measures to ensure women's equal access to and full participation in power structures and decision-making.

□ Women serve as senior leaders, assistant secretaries of defense and senior executives in the military departments. Women comprise 12 percent of the Senior Executive Service for career employees. The Air Force has four women and the Navy has one in the astronaut program.

□ Air Force Secretary Sheila Widnall is the first woman to hold the position of service secretary.

□ The Army has five women generals, the Navy has five women admirals, the Air Force has six female generals, and the Marine Corps has one female general.

□ Other women appointed to key positions include Judith A. Miller, DoD general counsel, and her predecessor, Jamie S.

Gorelick; Eleanor Hill, DoD inspector general; Catherine Kelleher, defense adviser to the U.S. Mission to NATO; Alice C. Maroni, principal deputy comptroller; Deborah R. Lee, assistant secretary of defense for reserve affairs; Anita K. Jones, director of defense research and engineering; Colleen A. Preston, deputy under secretary for acquisition reform; Sherri W. Goodman, deputy under secretary of defense for environmental security; and Sandra K. Stuart, assistant secretary of defense for legislative affairs.

□ Women comprise 12 percent of the active duty force, 14 percent of the reserve force, 37 percent of the DoD civilian labor force, 90 percent of the 750,000 spouses of active duty members and 19 percent of civilian managers in grades GS-13 to -15.

□ The DoD Executive Leadership Program is a civilian personnel program for executive succession planning which has a special focus to ensure the inclusion of women.

*Strategic Objective G2.* Increase women's capacity to participate in decision making and leadership.

□ The Defense Advisory Committee on Women in the Services was established 45 years ago to recommend improvements in the use of and quality of life for women.

#### **Advancement**

*Strategic Objective H1.* Create or strengthen national machineries and other governmental bodies.

□ The first objective, that governments should ensure that responsibility for the advancement of women is vested in the highest possible level of government, is exemplified by the secretary of defense's March 3, 1994, memorandum on equal opportunity and the Aug. 22, 1994, memorandum prohibiting sexual harassment in DoD. The March 3 memorandum requires all DoD personnel receive equal opportunity training to understand their responsibilities. The Defense Equal Opportunity Management Institute developed seminars and briefings for senior civilian and military leaders and a mandatory two-day program for all new O-7s and new Senior Executive Service members.

□ DACOWITS continues to evaluate women's issues and make recommendations. This organization regularly reviews policy decisions and garners field input in its

analysis of women in the military.

*Strategic Objective H2.* Integrate gender perspectives in legislation, public policies, programs and projects.

□ The Army Family Action Plan was created to improve family programs, benefits and entitlements at the grass roots level. Designed by Army spouses in 1981 and adopted by Army leadership in 1983, it implements a partnership that exists between the Army and Army families.

□ DoD has in place management tools such as flexible work schedules, part-time employment and flexiplace to maximize the opportunity for employment of individuals with family responsibilities.

□ DoD hosted a forum of employed military spouses. The forum served as the mechanism to surface issues that military spouses face due to frequent moves. The spouses raised issues for DoD's review that will assist them with employment external to the federal government.

*Strategic Objective H3.* Generate and disseminate gender-related data and information for planning and evaluation.

The Office of the Deputy Assistant Secretary of Defense (Equal Opportunity) issues policy and monitors DoD-wide representation of women, minorities and people with disabilities, making recommendations as indicated. The military departments and defense agencies are responsible for affirmative action/employment planning within their respective branches and for preparing and submitting annual reports in concert with Equal Employment Opportunity Commission guidance.

#### **Human Rights**

*Strategic Objective I1.* Promote and protect the human rights of women through the full implementation of all human rights instruments.

□ DoD will soon implement the Defense Incident-based Reporting System, which includes reporting requirements on the sex of victims and whether offenses are bias-motivated.

□ The deputy secretary of defense published a May 1995 action agenda for civilian equal employment opportunity progress within DoD.

□ DoD published a Department of Defense Human Goals charter.

*Strategic Objective I2.* Ensure equality and nondiscrimination under the law and in practice.

- The secretary of defense established recent policy emphasizing nondiscrimination by senior DoD and military personnel.
- The secretary of defense elevated the Office of Equal Opportunity and made it the focus for military and civilian equal opportunity programs.

*Strategic Objective I3.* Achieve legal literacy.

□ DoD family centers and legal service offices brief family members on powers of attorney, wills and general legal assistance to help them protect their rights and understand the legal process.

□ DoD has initiated a comprehensive victim/witness assistance program that ensures all victims, including women, are advised of their rights and understand resources available to assist them at each stage of the entire criminal justice process. The governing directive and instruction directs particular attention be paid to victims of serious, violent crime including child abuse, domestic violence and sexual misconduct. Several DoD-wide training sessions have been held in cooperation with vigorous implementation of this program.

#### ***Women and the Media***

*Strategic Objectives J1 and J2.* Increase the participation and access of women to expression and decision-making in and through the media and new technologies of communication. Promote a balanced and nonstereotyped portrayal of women in the media.

□ A vital part of the DoD public affairs program is to present information about women as they are — accomplished professionals. Recent examples are:

— The National Air and Space Museum interviewed women helicopter pilots for television programs marking the 150th anniversary of Smithsonian Institution.

— The Chicago Tribune did a story on aviation training for women; Newsweek conducted interviews of women cadets for gender integration at the U.S. Military Academy, Virginia Military Institute and the Citadel.

— The Pentagram, the newspaper of the Army Military District of Washington, spotlighted a woman who has earned a

perfect score on physical fitness tests for 15 years (since entering service).

— “CBS This Morning” aired a multipart series on women recruits and drill instructors at Marine Corps Recruit Depot, Parris Island, S.C.

— Health, Redbook and Elle magazines interviewed numerous Marines for profiles of life in the Marine Corps.

#### ***Women and the Environment***

*Strategic Objective K1.* Involve women actively in environmental decision-making at all levels.

□ The top environmental policy maker in DoD is a woman.

□ Twenty five percent of Office of the Secretary of Defense environmental professionals are women.

□ The deputy assistant secretary of the Navy, principal assistant deputy assistant secretary (Navy) and principal assistant deputy assistant secretary (Army) for environmental programs are women.

*Strategic Objective K2.* Integrate gender concerns and perspectives in policies and programs for sustainable development.

□ DoD is an active participant in the Federal Interagency Working Group on Women's Health and the Environment sponsored by the Department of Health and Human Services' Office on Women's Health. The group plans to publish an inventory of federal activities on women's health and the environment during 1996.

□ A DoD initiative to increase participation of women in technical fields resulted in a 194 percent increase in the number of women in DoD environmental engineering fields. (From 187 in 1990 to 550 in 1995).

□ DoD targets minorities and women-owned businesses for many environmental contracts.

□ DoD has executed a program that targets outreach, training and educational opportunities for women and minorities in communities surrounding military installations through implementation of the environmental justice executive order.

#### ***The Girl Child***

*Strategic Objective L1.* Eliminate all forms of discrimination against the girl child.

□ All education, training and developmental activities within the DoD Educational Activity and in the child developments

centers are gender neutral.

**Strategic Objectives L2 and L3.** Eliminate negative cultural attitudes and practices against girls. Promote and protect the rights of the girl child and increase awareness of her needs and potential.

□ DoD has a youth services program that includes life skills enhancement programs, youth fitness and sports programs, and youth enrichment. The youth services also offer courses on pregnancy prevention targeted at the girl child.

□ DoD youth centers offer school-age programs in computer use and academic counseling.

□ The School-to-Work Opportunities Act is designed to help noncollege-bound students gain practical skills to prepare for the workplace. It particularly affects female students who need exposure to high-skill, high-wage career options that are nontraditional roles for girls.

**Strategic Objective L4.** Eliminate discrimination against girls in education, skills development and training.

□ The Department of Defense Education Activity Strategic Plan targets narrowing the achievement gap of girls in math and science by 50 percent by the Year 2000.

**Strategic Objective L5.** Eliminate discrimination against girls in health and nutrition.

□ The Department of Defense Education Activity provides subsidized school lunch programs for eligible children stationed outside the continental United States.

□ DoD is seeking to implement a Women's Infant's and Children Supplemental Food Program outside the continental United States.

**Strategic Objectives L6 and L7.** Eliminate the economic exploitation of child labor and protect young girls at work. Eradicate violence against the girl child.

□ DoD has an aggressive public awareness effort to disseminate knowledge about child maltreatment. DoD provides training and education on resources available for parents, information on child development, disciplinary methods and personal safety.

□ DoD has established a family advocacy command assistance team to respond to multiple cases of out-of-home child sexual

abuse. The team is composed of clinicians, legal experts, public affairs, child advocates, pediatricians and investigative persons skilled in child sexual abuse.

□ DoD family advocacy programs consistently educate girl children on potential risks to their safety. This effort also involves educating physicians and emergency room personnel on how to detect and identify instances of child abuse.

**Strategic Objective L8.** Promote the girl child's awareness of and participation in social, economic and political life.

□ The DoD Model Communities Program is an initiative sponsored in 20 communities worldwide to promote the healthy development of all youth — socially and economically, with job development activities.

□ DoD supports the "Take Your Daughter to Work" effort, and many DoD employees participate. Many child development centers and schools on military installations promote family involvement in understanding the military mission and have activities and events where children and wives are encouraged to participate.

**Strategic Objective L9.** Strengthen the role of the family in improving the status of the girl child.

□ A Department of Defense Education Activity goal is to narrow the gap in mean college-entrance exam subtest scores along racial, ethnic and gender lines.▼

Senior Airman Es Davies processes air tasking messages at her station in a NATO command center in Sarajevo, Bosnia. The United States deployed thousands of active duty women to this hazardous-duty area; 20 years ago it probably would have sent none because of restrictive assignment rules.



Sgt. Andrea McCallard, USA

S E X U A L  
B U T

# Still Prevalent

*the secretary of the Air Force and the under secretary of defense for personnel and readiness to develop a sexual harassment policy action plan. This plan was provided in April 1994 and included among its elements the establishment of the Defense Equal Opportunity Council Task Force on Discrimination and Sexual Harassment.*

Based on a  
Department of  
Defense  
summary,  
released July  
1996

The group was to review the military services' discrimination complaint systems and recommend improvements, including the adoption of departmentwide standards, and to conduct of the first departmentwide sexual harassment survey since 1988.

## 1995 FORM A RESULTS

TYPE OF SEXUAL HARASSMENT	Percent of all Respondents			
	WOMEN		MEN	
	1988	1995	1988	1995
Any Type (one or more)	64	55	17	14
Actual/Attempted Rape/ Assault	5	4	0	0
Pressure for Sexual Favors	15	11	2	1
Touching, Cornering	38	29	9	6
Looks, Gestures	44	37	10	7
Letters, Calls	14	12	3	2
Pressure for Dates	26	22	3	2
Teasing, Jokes	52	44	13	10
Whistles, Calls	38	23	5	3
Attempts at Other Activities	7	7	2	2
Other Attention	5	5	1	1

*How much sexual harassment is occurring? How do 1995 results compare to those obtained in 1988?*

Form A survey respondents' reports of sexual harassment show a significant decline since 1988. In 1995, 19 percent of respondents (55 percent of women and 14 percent of men) reported one or more incidents while at work in the year prior to the survey compared with 22 percent of the respondents (64 percent of women and 17 percent of men) in 1988. The survey defined 10 categories of reportable behavior; reports of incidents declined in most categories.

*Why was the Form B survey developed and what was learned from it?*

Form A was fielded solely to compare 1988 and 1995 reports. Senior DoD officials believed these indicator data would be important in addressing the overall question, "Have we improved?"

Although Form A allows comparisons to the 1988 baseline, senior officials also believe the 1988 survey could be improved. The earlier survey

provided no opportunity for respondents to report certain types of behavior related to sexual harassment, limited incidents to the work place and contained no items that measured some areas of importance to policy makers, such as the amount and effectiveness of training and the respondents' opinions of the complaint process. Because Form B contained a considerably expanded list of reportable behaviors and because some are not sexual harassment per se (for example, assault, sexism), it was titled "Status of the Armed Forces: Gender Issues."

An extensive incident reporting list of 25 items, compared to 10 in 1988, was developed for Form B. After the data were collected, the 25 items were analyzed and reported in five broad categories: crude/offensive behavior, sexist behavior, unwanted sexual attention, sexual coercion and sexual assault.

The 1988 survey limited the reporting of incidents to those that occurred at work. The 1995 Form B considerably broadened the context in which respondents could report experiences. Survey respondents were asked to report "Experiences in the last 12 months related to your gender, including unwanted sex-related attention ... in situations involving military personnel (on or off duty; on or off base/post) and/or civilian employees and contractors employed in your workplace."

Administering a new survey that more than doubled the possible categories of reporting and broadened the circumstances under which harassment could be reported — off-duty hours, off-base and so forth — clearly ensured the rates would be higher on this form than the Form A and 1988 surveys. Based on responses to the 25 items from Form B, 43 percent of active-duty military (78 percent of women and 38 percent of men) indicated they had experienced one or more of the behaviors listed in the survey during the previous 12 months.

#### *Did service members consider the experiences they reported to be sexual harassment?*

Many did not. Because numerous new items were included on the Form B survey, a question was added that asked respondents if they considered any of the behaviors they checked in the 25-item list "sexual harassment." Although 78 percent of women and 38 percent of men checked one or more items, only 52 percent of women and 9 percent of men indicated they considered the experi-

#### 1995 FORM B RESULTS

TYPE OF SEXUAL HARASSMENT	Percent of all Respondents	
	WOMEN 1995	MEN 1995
Any Type (one or more)	78	38
Sexual Assault	6	1
Sexual Coercion	13	2
Unwanted Sexual Attention	41	8
Sexist Behavior	63	15
Crude/Offensive behavior	70	35

ences they checked to be sexual harassment.

#### *How do the results of the multiple surveys compare?*

Among the 1988 participants, 64 percent of active-duty women and 17 percent of men reported experiencing one or more instances of sexual harassment based on the survey's 10-item list. Using the same survey, Form A, in 1995, 55 percent of women and 14 percent of men reported experiencing one or more instances of sexual harassment. Of the Form B respondents, 78 percent of women and 38 percent of men reported experiencing one or more incidents on the 25-item list. When the rate is adjusted to account for those who didn't consider at least some of the experiences to be harassment, the percentages fell to 52 percent for women and 9 percent for men.

#### *Who reported they had experienced sexual harassment?*

Within the active-duty military, 49 percent of the junior enlisted personnel (grades E1-E4) reported experiencing one or more instances of sexual harassment compared to 40 percent of senior enlisted and 39 percent of officers.

Form B analysis indicated that black men reported incidents at slightly higher rates than white men. The overall rates for black and white females were not significantly different.

#### *Who were the sexual harassers?*

The most frequently cited by both women and men were military co-workers (44 percent of women and 52 percent of men), higher-ranked military personnel (43 percent of women and 21 percent of men), and other military persons (24 percent of women and 22 percent of men).

# How

in the 1995 DoD sexual harassment study. The first, Form A, replicated the 1988 survey that produced the baseline data on sexual harassment in the active-duty services. The sole purpose of administering the Form A survey was to compare sexual harassment incident rates in 1988 and 1995.

The main purposes of the second survey, Form B, were to assess:

What elements of the active duty military population had unwanted experiences which they believed were gender related;

The context, location and circumstances under which such experiences occurred;

The extent to which these experiences were reported and, if reported, members' satisfaction with the complaint process and response;

The amount and effectiveness of training received by members on topics related to sexual harassment; and

Service members' views of current policies designed to prevent, reduce or eliminate sexual harassment, of leadership commitment and of progress in reducing the incidence of sexual harassment.

The third survey, Form C, was administered to a small sample of active-duty members for research purposes, to transition to using one survey in the future. No results were calculated from this survey.

The three surveys were sent to over 90,000 active-duty military members from Feb. 15 to Sept. 18, 1995. About 30,000 personnel received Form A and about 13,600 completed the survey, for a response rate of 46 percent. Because detailed analyses of Form B were planned, about 50,000 personnel received it and about 28,300 completed it, for a response rate of 58 percent. Form C was mailed to about 9,500 and about 5,300 completed it, for a response rate of 56 percent. No military member received more than one survey.

## *Where and when did sexual harassment occur?*

Sexual harassment primarily occurred on military installations at work and during duty hours. For example, 88 percent of women and 76 percent of men who reported harassment indicated that all or most of it occurred on a military installation.

In terms of when the experiences occurred, 74 percent of women and 68 percent of men reported that all or most were while at work; 77 percent of women and 68 percent of men reported that all or most occurred during duty hours.

Only 5 percent of women reported none occurred on an installation, 14 percent said none occurred at work, and 9 percent said none occurred during duty hours.

## *Did service members report their experiences and, if so, to whom?*

Active-duty military personnel are increasingly reporting their experiences.

Approximately 24 percent of those who indicated experiencing an incident report it (40 percent of women and 17 percent of men). In the 1988 survey, only 8 percent of women and 10 percent of men did so.

Victims most often reported the incidents to their immediate supervisors (26 percent of women and 11 percent of men), someone else in the chain of command (21 percent of women and 8 percent of men), and the harasser's supervisor (18 percent of women and 8 percent of men).

## *What actions did organizations take in response to members' reports?*

Half the women and 22 percent of the men said the harasser was talked to; 20 percent of women and 10 percent of men reported the harasser was counseled. However, 39 percent of men and 15 percent of women indicated no action was taken, and 23 percent of women and 16 percent of men felt their complaint was discounted or not taken seriously. Fourteen percent of women and 4 percent of men indicated their complaint was being investigated, and about 10 percent said they did not know what action was taken.

## *If service members did not report their experiences, why not?*

Where the incident went unreported, women most often said they took care of the problem themselves (54 percent). Men, more

frequently than women, said they did not think the matter was important (51 percent of men and 35 percent of women). Twenty percent of women and 10 percent of men said they did not think anything would be done.

In terms of negative consequences, 25 percent of women and 13 percent of men indicated they thought reporting would make their work situations unpleasant. Seventeen percent of women and 8 percent of men thought they would be labeled troublemakers. Thirteen percent of women and 10 percent of men did not want to hurt the person who bothered them.

#### *Did service members experience retaliation?*

Yes, to some extent. Twenty percent of the women and 9 percent of men who said they experienced sexual harassment and reported it also said they later received a performance rating they felt had been unfairly lowered to some degree.

When asked if they felt "free to report sexual harassment without fear of bad things happening" to them, considerably fewer women than men felt they could do so to a "large extent."

#### *To what extent were members who reported harassment satisfied with the complaint process?*

Of those who reported their experiences, about a third were dissatisfied with the complaint process overall, a third were satisfied, and a third were neither.

#### *Had service members received training and, if so, what was their opinion of the effectiveness of the training?*

Seventy-nine percent of women and 85 percent of men reported receiving sexual harassment training. In terms of currency, 26 percent of women and 34 percent of men reported receiving at least four hours or more of training in the past 12 months; 40 percent of women and 42 percent of men reported receiving one to four hours of training. In addition, 98 percent of women and men reported they knew what kinds of words or actions are considered sexual harassment.

When asked how effective the training was in reducing or preventing sexual harassment, 54 percent of women and 65 percent of

men said "moderately to very effective," 33 percent of women and 27 of men said "slightly," and 12 percent of women and 8 percent of men said "not effective."

#### *Did service members know how to report sexual harassment? Did they know their formal complaint channels?*

Eighty-seven percent of women and 89 percent of men said they knew the process for reporting sexual harassment. Junior enlisted (E1-E4) were less likely to know (83 percent) compared to senior enlisted (92 percent) and officers (95 percent).

Sixty percent of junior enlisted (E1-E4) were aware of formal complaint channels at their duty stations, compared to 79 percent of senior enlisted (E5-E9) and 85 percent of officers. About 55 percent of men and women reported they knew of a specific office that investigated complaints at their duty station; 65 percent of women and 74 percent of men said formal complaint channels had been publicized at their current duty stations.

#### *Did service members think sexual harassment in the military had declined?*

Of those respondents who had served in the military two to five years, 46 percent of women and 58 percent of men said sexual harassment was occurring less often. Thirty-four percent of women and 27 percent of men reported it was occurring at about the same rate, and 12 percent of women and 7 percent of men indicated it was occurring more often.

For those who had served six to 10 years, 60 percent of women and 76 percent of men reported it was occurring less often. Thirty percent of women and 18 percent of men indicated it was occurring about the same, while 10 percent of women and 5 percent of men reported it was occurring more often.

#### *What did active-duty service members think of their leadership's efforts to stop sexual harassment?*

Asked whether different leadership levels were making honest, reasonable efforts, 53 percent of women and 67 percent of men answered "yes" for senior service leadership of service; 52 percent of women and 67 percent of men answered "yes" for the senior installation/ship leaders; and 59 percent of women and 68 percent of men answered "yes" for their immediate supervisors.▼

# STANCHING GLOBAL WEAPONS PROLIFERATION

The proliferation of weapons of mass destruction provokes regional instability and challenges to U.S. interests.

The United States is an international leader in developing and sustaining global norms against the proliferation of these weapons and missiles. It is actively engaged with several states around the world to persuade them to eschew these capabilities or to eliminate those they might have already.

The United States also is working with states to combat proliferation by assisting them in gaining and assuring greater control over their dual-use equipment and technology. States that gain weapons of mass destruction are able to pose a significant military threat to the interests of the United States, our allies and friends.

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Based on "Department of Defense Response" in the DoD report "Proliferation: Threat and Response," released April 1996.

The Department of Defense actively contributes to overall U.S. efforts to stem proliferation wherever it occurs and from whatever source, including through active and passive defenses, and maintaining the credibility of our security commitments against military threats.

DoD developed the Defense Counterproliferation Initiative following the Gulf War against Iraq and the systematic Bottom-up Review that identified post-Cold War military requirements. The initiative directs the Joint Chiefs of Staff, the operational commanders in chief and the military departments to give greater emphasis to counterproliferation requirements and considerations.

Specific objectives of the counterproliferation initiative are to prevent the acquisition of nuclear, chemical and biological weapons and their delivery systems, roll back proliferation where it has occurred, deter use of these weapons and their delivery systems, and adapt U.S. military forces and planning to respond to regional contingencies in which U.S., allied and coalition forces face nuclear, chemical and biological threats. The ordering of objectives is deliberate. In line with national policy, proliferation prevention is the top priority.

To achieve these objectives, DoD has requested \$505 million in fiscal 1997 for the department's chemical/biological defense program and \$93.7 million for the Counterproliferation Support Program. These programs would fund specific high-priority acquisition activities to provide required military counterproliferation capabilities.

## **PROTECTION**

### ***Overview***

One core objective in proliferation protection policy is to convince potential and actual proliferants that nuclear, chemical and biological weapons will be of no value because the United States and partners will deny or limit their political and military use and because the retaliation will far outweigh any potential benefits of use.

There is no simple solution or single response to the threat posed by the proliferation of nuclear, chemical and biological weapons and their delivery systems. As is essential with all new initiatives, the right balance has to be struck between thorough, step-by-step planning and early action to

remedy long identified shortfalls.

DoD comprehensively reviewed military missions and functions related to counterproliferation to ensure all aspects of the issue are assessed. It coordinated the assessments with congressionally mandated national reviews. Several acquisition programs already in the pipeline were augmented to remedy shortfalls.

Proliferation protection measures can be grouped into five areas: policy, military planning and operations, acquisition, intelligence and international cooperation initiatives. While much work is to be done to acquire the required capabilities, there have been significant achievements.

### ***Groundwork Established***

President Clinton's September 1993 policy statement to the U.N. General Assembly established the groundwork for building a new consensus within the United States and with our friends and allies concerning counterproliferation objectives.

The president defined national nonproliferation policy objectives early in his administration. The secretary of defense responded by issuing DoD implementation instructions. Counterproliferation objectives and capabilities are now routinely addressed in planning and programming processes, with prominent emphasis in the Defense Planning Guidance. Military planning, training and exercises now give much more emphasis to proliferation when addressing potential major regional contingencies.

The defense initiative makes counterproliferation routinely considered within the department's activities. Counterproliferation is not of a unique nature requiring stand-alone consideration, rather, it affects virtually every aspect of the defense mission and should be embedded in day-to-day operations. A DoD directive now fully reinforces the implementation of counterproliferation policy. The assistant secretary of defense for international security policy develops and implements that policy.

Protection is based on enhancement and use of existing resources. It requires a broad range of capabilities, including effective strategic and tactical intelligence, battlefield surveillance, counterforce, active defense, passive defense, and response to paramilitary, covert and terrorist threats.

At the request of the deputy secretary of

defense, the chairman of the Joint Chiefs of Staff reviewed the missions, responsibilities and force structure of each unified command and how the services organize, train and equip to support the counterproliferation policy. The secretary of defense approved the final report from the study on May 5, 1995, and revised the Unified Command Plan on May 24 to reflect study advice that counterproliferation be a mission of the U.S. armed forces.

The counterproliferation mission was

assigned to those combatant commanders most directly responsible for defending U.S. national interests overseas where proliferation occurs and its immediate impact is felt — namely, those with geographic areas of responsibility.

The assignment of counterproliferation as a definitive military mission will result in:

- Optimized organizational arrangements between supported and supporting unified commands,
- Development of counterproliferation-specific operational concepts, and
- Tailored relationships between the commanders and the U.S. intelligence community and other

government agencies that will improve U.S. forces' ability to operate and prevail against an adversary armed with nuclear, chemical and biological weapons.

#### ***Planning Has Begun***

The commanders in chief, services, and Joint Staff are already engaged in planning activities to support the overall U.S. government effort against nuclear, chemical and biological threats. The chairman commissioned the Joint Warfighting Capabilities Assessment to evaluate the U.S. military effort to respond to the challenges of the new global security environment, and counterproliferation was one of nine capa-

bilities addressed. Working from national goals identified in the National Security Strategy, the assessment translates national goals into military objectives and requirements and identifies the military capabilities and programs necessary to meet those requirements.

#### ***Analyzing the Implications***

The key to effective planning for the operational challenges posed by proliferation is a detailed analytical understanding of this new security challenge and its implications for current U.S. strategy. Based on its analysis, the department is determining initiatives that optimize solutions to the complex and myriad challenges.

Joint Staff planners have been working with combatant commanders to refine counterproliferation priorities and required enhancements to U.S. military capabilities for all warfighting missions. As a result, the commanders have developed a list of required capabilities to meet the threat. They place highest priority on those missions where fielding quickly enhanced capabilities provides the most leverage in a short time. This is in line with their responsibility to be prepared to employ their forces immediately for deterrence and defense.

The combatant commanders' No. 1 priority for enhancing their counterproliferation capabilities is improved equipment to detect and characterize chemical and biological weapons threats, particularly at long ranges. The wide variety of chemical and biological agents calls for a variety of protective measures. Detection and characterization are passive defenses and relevant because they provide additional early warning for units at risk of attack.

The next unified command priority is the ability to intercept cruise missiles. Emphasis continues to be placed on ballistic missile defense, but the widening availability of cruise missile technology requires military planners to prepare for this emerging challenge. These intercept capabilities are active defenses and relevant for counterproliferation because cruise missiles can be extremely effective in delivering biological and certain chemical agents. Improved capabilities for the identification, characterization and defeat of underground targets are the next set of unified command priorities. Proliferants are increasingly making use of underground facilities as they

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respond to the demonstrated effectiveness of U.S. precision conventional munitions in the Gulf War. The capabilities to address these targets are termed counterforce.

The regional commanders have identified other requirements to improve passive defenses. Biological vaccines are one example. A key ingredient to dissuading proliferants from acquiring or using these weapons is to eliminate their value. Passive defenses that allow sustained combat and logistical operations are among the best ways to accomplish this.

Disabling above-ground nuclear, chemical and biological infrastructure — production capabilities as well as weapons in storage and on delivery systems — is a unified command priority that poses some unusual challenges. Collateral effects, such as dispersal of nuclear, chemical or biological material following an attack, are of concern. Commands require improved capabilities to predict and minimize these effects. A related priority involves new munitions for biological and chemical agent defeat. It may do little good to destroy an incoming missile if the agents aboard are released anyway, perhaps over U.S. or coalition forces.

Other items on the unified commands' priority list include improvements in detection and tracking of nuclear, chemical and biological shipments; prompt mobile target kill; support for special operations forces; and ability to locate, detect and disarm nuclear, chemical and biological weapons in the United States and overseas.

### **Acquisition Strategy Accelerates**

The unified commands, working through the Joint Chiefs of Staff, identify their requirements for passive defense, active defense, counterforce and capabilities against covert and paramilitary threats. The DoD acquisition strategy accelerates programs to meet these requirements, redressing shortfalls and funding research and development to provide capabilities that cannot be met with current systems and technologies. The Joint Warfighting Capabilities Assessment counterproliferation team links the regional commanders' requirements and the department's research and development investment programs.

To focus the defense acquisition strategy, the assistant to the secretary of defense for nuclear, chemical and biological defense programs (formerly, the assistant for atomic

energy) has been designated as the lead for counterproliferation programs within the Office of the Secretary of Defense. He also is the oversight authority for chemical-biological defense programs.

Congress directed establishment of a Nonproliferation Program Review Committee in 1994. In its May 1994 report to Congress, the primary volume of which is available to the public, the committee identified key areas in which progress was needed to improve governmentwide capabilities for proliferation prevention and protection.

### **Ops Capabilities Examined**

DoD established the Counterproliferation Support Program specifically to address the DoD shortfalls in operational capabilities identified by the committee. Congress jump-started the program with \$58 million in fiscal 1995, and the administration requested \$93.7 million in fiscal 1997 to accelerate development and deployment of essential military counterproliferation technologies and capabilities. The president's fiscal 1997 budget submission also adds \$21.8 million to the existing cruise missile defense programs, bringing the total DoD enhancement for fiscal 1997 to \$115.5 million. These funds help address specific priorities and are in addition to an existing DoD-wide fiscal 1997 investment of just under \$4.3 billion in counterproliferation-related programs.

Congress instituted a follow-on Counterproliferation Program Review Committee comprised of the secretary of defense, secretary of energy, director of central intelligence and chairman of the Joint Chiefs of Staff to provide status reports on improvements. The result is a coordinated national investment strategy for counterproliferation. The committee report detailing counterproliferation activities and programs was issued in May 1995. Most of the committee's product has been released for general distribution.

The department is focusing its investments in military systems to support counterproliferation in passive defense, active defense, counterforce, and measures to counter paramilitary, covert and terrorist nuclear, chemical and biological threats.

The programs outlined below represent proposed, new and ongoing DoD projects and new initiatives strongly related to countering proliferation. General purpose and defense infrastructure programs, such as the devel-

opment and procurement programs for various military weapon delivery platforms, are not included because they contribute to the basic capabilities of U.S. forces as well as counterproliferation. Most of the new investments leverage existing and other in-development capabilities.

In response to congressional direction, DoD established an integrated chemical-biological defense program under the oversight of the assistant to the secretary of defense for atomic energy. The same official

has oversight responsibility for the Joint Program Office for Biological Defense, created to provide management oversight for critical related defense acquisition programs, including vaccine production and battlefield detection programs. The Counterproliferation Support Program leverages existing programs to accelerate fielding critical systems and technologies.

Passive defense involves military capabilities that protect against nuclear, chemical and biological weapon effects. Programs involve contamination avoidance (reconnaissance, detection, and warning), force protection (individual and

collective protection and medical support) and decontamination.

Within the avoidance area, sensors for joint task forces, mobile reconnaissance, and systems capable of detecting multiple biological and chemical agents and characterizing new agents are being developed. Technological advances are being pursued in remote detection, miniaturization, lower detection limits, logistics support and biological detection capability.

Improved masks and protective clothing are being developed under a joint program that will reduce the weight, heat stress and logistics burden of current gear. Medical

research is providing improved antidotes, treatments, vaccines and medical casualty management systems. Lightweight shelters and other advances in protection technology are also supported.

Decontamination technology programs support advances in sorbents, coatings catalysis and physical removal. The chemical-biological defense projects to protect U.S. forces from effects of nuclear and radiological weapons include detection and warning sensors, individual and collective protection, medical response and decontamination. The total fiscal 1997 chemical-biological defense program budget for research, development, test and evaluation and procurement is about \$505 million.

The Counterproliferation Support Program leverages existing programs to accelerate the deployment of important systems. Examples include support that may accelerate by up to five years fielding an eye-safe infrared laser detector for long-range battlefield warning of chemical and biological weapons use; explore whether ultraviolet multifrequency lasers can detect and characterize biological agents by their fluorescence; develop miniature detectors for unmanned aerial vehicles; accelerate by two years the procurement of improved individual protective clothing and collective protective equipment; supplement the decontamination technology base; and enhance existing joint nuclear, chemical and biological doctrine and training procedures by intensified battlefield simulation. Approximately \$30 million has been budgeted in fiscal 1996 for these passive defenses.

#### ***Passive Defense Managers***

The Defense Special Weapons Agency (formerly the Defense Nuclear Agency) and the military departments also manage a number of passive defense programs. The agency has programs to ensure survivability of weapon systems in a nuclear environment; \$95.5 million has been budgeted for these investments in fiscal 1996. The Navy provides research, development, test and evaluation of radiation monitoring equipment for Navy and Marine Corps use. The Army's Dugway Proving Ground, Utah, is the primary test range for biological and chemical defense equipment and a program that develops technology to enhance survivability of Army systems in nuclear environments.

## **IMPROVED MASKS AND PROTECTIVE CLOTHING ARE BEING DEVELOPED UNDER A JOINT PROGRAM THAT WILL REDUCE THE WEIGHT, HEAT STRESS AND LOGISTICS BURDEN OF CURRENT GEAR. MEDICAL RESEARCH IS PROVIDING IMPROVED ANTIDOTES [AND] TREATMENTS.**

Active defense involves programs that detect, track, identify, intercept and destroy, and neutralize nuclear, chemical and biological warheads delivered by aircraft and missiles while minimizing collateral effects.

DoD continues to implement the new priorities established for ballistic missile defense identified in the Bottom-up Review. These priorities focus on preparing for major regional contingencies that may involve adversaries with nuclear, chemical and biological weapons.

### **Missile Threat Grows**

The threat of ballistic missile use has grown enormously over the past two decades. Ballistic missiles have been used in six regional conflicts since 1973. During the Gulf War, the United States and its coalition partners were unable to locate Iraq's mobile missile launchers and halt attacks.

Ballistic missiles tipped with nuclear, chemical and biological weapons will pose an even greater threat to U.S. security and that of other friendly nations. The best counter would be a layered defense, with intercept prior to, at or immediately after launch so warhead debris and contamination do not land on friendly territory or troops. While prelaunch engagement is optimal, post-launch intercept may be more practical in some situations. The Ballistic Missile Defense Organization has the lead in this technology and acquisition effort.

DoD has developed a defense architecture entailing deployment of multilayered defenses in a theater conflict. These layers consist of a lower tier, including Patriot Advanced Capability-3, Navy area theater missile defense and Corps Surface-to-Air Missile/Medium Extended Air Defense System, and an upper tier comprising Theater High Altitude Area Defense and Navy wide-area theater missile defense; and boost-phase intercept.

The technologies necessary to destroy enemy ballistic missiles soon after launch are still being developed. Additional efforts are aimed at gaining a better understanding of the dispersion of chemical and biological agents in flight and methods for neutralizing them to reduce collateral effects associated with ballistic and cruise missile engagements.

The Ballistic Missile Defense Organization is conducting programs including boost phase intercept; demonstration, validation

and engineering manufacturing development of the various layered defense systems; advanced sensor technology and innovative science and technology programs for post-2000 defense systems; threat and countermeasures projects that ensure robust defense by defining adversary military systems; and assessment, modeling and experimental activities involving collateral effects release associated with attacking missiles. The Ballistic Missile Defense Organization has budgeted approximately \$2.7 billion in fiscal 1997 to support these programs.

The organization's active defense programs are supplemented by Defense Advanced Research Projects Agency, Navy and Air Force programs. In its air defense initiative, DARPA is developing the Mountain Top radar for defense against manned aircraft and cruise and theater ballistic missiles; \$21.77 million has been budgeted for the program in fiscal 1997.

The Ballistic Missile Defense Organization and Navy will also provide fiscal 1996 funding for the Mountain Top advanced concept technology demonstration.

The Air Force is managing three programs in this area: the Theater Missile Defense program, the Airborne Laser program, and the Space Sensor and Satellite Communication Technology program. The Air Force will field one laser prototype with a contingency capability in 2001. The laser destroys theater ballistic missiles in the boost phase, causing debris to fall on enemy territory, and it also provides a rapidly deployable wide-area defense capability. Approximately \$86.6 million has been budgeted for these activities in fiscal 1997.

### **Facets of Counterforce**

Counterforce involves developing the ability to target, attack, seize or destroy an enemy's nuclear, chemical and biological weapons or otherwise deny him their use. Concerns extend to the enemy's launch platforms; command, control and communications; logistics structure; and reconnaissance, surveillance and target acquisition platforms.

DoD is working to improve capabilities to defeat nuclear, chemical and biological threats before they can be used. Resources are being applied to improving battlefield surveillance, target characterization and munition/agent defeat.

### **Capabilities Being Improved**

For battlefield surveillance, DoD is improving capabilities to detect, identify and characterize nuclear, chemical and biological forces and associated infrastructure elements quickly to support targeting, mission planning and poststrike battle damage assessments. Emphasis is on continuous wide-area surveillance; detection of mobile targets, particularly nuclear, chemical and biological-armed mobile missile launchers; and improved battle damage assessment capabilities.

DoD is also enhancing the integration and analysis of sensor inputs, which is required to provide the data needed to identify and track mobile targets. The Gulf War demonstrated this problem — we could not detect or destroy mobile Scud missiles prior to launch. Success requires orchestration of sensors in near real-time and prompt response of weapon systems capable of defeating these targets.

Accurate information concerning the locations and characteristics of nuclear, chemical and biological-related facilities — especially hardened underground ones — is required for counterforce opera-

tions. That a facility is underground does not preclude its being located, characterized and defeated. The warfighter needs intelligence and supplemental modeling tools that characterize the facility, ideally to the resolution needed to select and direct the most effective weapons against its most critical elements.

To make effective use of this target information, our forces must have weapons that can penetrate walls and other barriers protecting above- and below-ground structures. They must also have munitions that can defeat nuclear, chemical and biological agents. These systems must perform against

targets protected by air and missile defenses. Concurrently, a new system is needed to predict the collateral hazards of attacks on nuclear, chemical and biological targets. These hazards may be far more significant than the direct effects of the attack munitions.

The Counterproliferation Support Program underwrites several specific counterforce projects. The investments focus on sensors, collateral effects mitigation, weapon effects and target response, advanced weapons and warheads, munitions for neutralization of chemical and biological agents, concepts for defeat of tunnels and a counterproliferation advanced concept technology demonstration.

### **Counterforce Sensors Budgeted**

The fiscal 1997 support program budget includes \$7.95 million for priority counterforce sensor technology projects such as tactical unattended ground sensors and airborne forward-looking infrared radar for target surveillance, characterization, battle damage assessment and collateral effects monitoring, a weapon-borne sensor to enhance underground target bomb damage assessment, and improved missile launch detection using overhead assets.

The fiscal 1997 budget also includes:

- \$8 million for research to improve our understanding of collateral effects release phenomena and transport;
- Over \$2.8 million for research on target vulnerability response and automated target planning to assist in target identification and strike planning;
- \$14.1 million to develop weapons enhancements such as a precision-guided penetrating munition to defeat underground targets; agent defeat warhead concepts; an all-weather, terrain-aided guidance system; and weapons mounting nonconventional payloads using kill mechanisms other than blast and fragmentation.
- \$2.9 million for modeling and testing of candidate materials to neutralize chemical and biological agents;
- \$10.48 million to integrate the above technologies into a counterproliferation advanced concept technology demonstration. Such demonstrations, a new approach to acquisition, rapidly integrate new military applications of current technologies for warfighting command customers and provide (following demonstration) a small

**ACCURATE INFORMATION  
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quantity of new prototype systems.

Other counterforce programs funded outside of the Counterproliferation Support Program include \$15 million for the Defense Special Weapons Agency development of lethality criteria for a full spectrum of weapons, including precision guided munitions and advanced conventional and unconventional payloads. The target base includes hard and superhard underground facilities and fixed surface facilities.

Acquisition investments to counter paramilitary, covert and terrorist threats are intended to protect military and civilian personnel, facilities, and logistical and mobilization sites in the United States and overseas. Threats in this class are increasing. Particularly challenging is the threat of covertly placed weapons. The terrorist chemical weapon attack on the Tokyo subway is a grim example.

DoD is actively pursuing several countermeasures. These include supporting, training and equipping joint special operations forces, explosive ordinance disposal teams, and nuclear, chemical and biological weapon response teams to detect devices and neutralize or render them safe. DoD can assist appropriate U.S. government authorities in countering these threats, operating as provided by law and regulation.

### **Programs Under Development**

DoD is devoting significant resources to develop technical means in tactical intelligence and related programs to conduct counterproliferation missions. Other programs include development of special warfare and command, control and communications equipment, air base protection programs, nuclear emergency search team support activities, multiservice explosive ordnance disposal teams, and research, development, test and evaluation of advanced technologies to support the U.S. Special Operations Command and EOD operations. Just over \$12 million has been budgeted for these programs in fiscal 1997.

New DoD initiatives supported by the Counterproliferation Support Program focus on developing chemical and biological emergency response teams; evaluating military facility nuclear, chemical and biological defense; and developing technologies and equipment to support and fund joint training exercises to improve response team

readiness. Just under \$9.35 million has been budgeted for these projects in fiscal 1997. The Department of Energy national laboratories also contribute to these projects, including work with the Defense Special Weapons Agency's Nuclear Incident Program to improve military base and mobilization/logistical node defense against nuclear threats.

Finally, the Navy's Joint Service Explosive Ordnance Disposal Systems program develops specialized equipment and tools required to detect, locate and render safe nuclear, chemical and biological munitions. The Navy has budgeted about \$9.7 million for this program in fiscal 1997.

### ***Intelligence Critical***

Effective intelligence is critical to all aspects of the DoD counterproliferation effort. To take advantage of prevention and protection opportunities, DoD officials need accurate and timely assessments of the motives and plans of leaders in states that may develop nuclear, chemical and biological weapon capabilities, the clandestine procurement networks they use, the status of their weapon programs and locations of both production sites and deployed weapons.

Information also is needed on weapon-related activities of transnational groups, such as ethnic or regional movements, terrorists or organized criminal elements. This is a demanding set of requirements. The dual-use nature of many technologies involved in nuclear, chemical and biological and delivery-system development complicate these tasks.

The U.S. intelligence community has taken steps to improve the management and coordination of support to DoD. Additional DoD personnel, including a military deputy, have been assigned to the director of central intelligence's Nonproliferation Center. The center and the community also have instituted a new strategic planning, resource guidance and evaluation process. The Defense Intelligence Agency, the prime conduit for national-level intelligence support to DoD, created the Office for Counterproliferation and Nuclear, Biological and Chemical Assessments to better focus its support.

Particular emphasis has been given to increasing the warning time before potential adversaries translate their potential into operational capabilities. U.S. acquisition

## THE UNITED STATES AND JAPAN ARE WORKING TO IDENTIFY JAPAN'S THEATER MISSILE DEFENSE NEEDS AND TO EVALUATE OPTIONS FOR ACQUIRING THAT CAPABILITY IN FUTURE YEARS, INCLUDING COOPERATIVE PROGRAMS.

DoD has been working with America's long-time allies in Europe and Asia to develop a common approach to counterproliferation. Following President Clinton's emphasis at the January 1994 NATO Summit on the danger of nuclear, chemical and biological proliferation, NATO heads of state directed the alliance to intensify and expand its political and defense efforts against proliferation.

Three groups were subsequently created: the Joint Committee on Proliferation, which monitors overall alliance efforts; the Senior Politico-Military Group on Proliferation, which focuses on NATO reinforcement of

and training and doctrine lead times do not permit the luxury of a "wait and see" approach. With lead times for new U.S. capabilities sometimes as long as 10 years, DoD needs to be able to anticipate the threats in future regional contingencies through early analysis of proliferants. To meet this requirement, the intelligence community has established new working arrangements with the technical expertise of the Department of Energy and its national labs.

This has expanded from a primarily

nuclear focus to include chemical and biological weapon threat detection, characterization and analysis.

The Defense Counterproliferation Initiative places great emphasis on international cooperation because it is very likely we will not fight alone on the battlefields of the future. Future conflicts are likely to involve coalitions, as was the case in the Persian Gulf War. Building and maintaining coalitions in such conflicts will be one key to successful military operations, so ability to protect coalition populations, territory and forces is a paramount concern.

### ***Working With Allies***

traditional nonproliferation efforts; and a senior defense group, which examines the defense aspects of proliferation, including the military capabilities needed to discourage proliferation of nuclear, biological and chemical weapons, to deter their use and, if necessary, to protect NATO territory, populations and forces.

In May 1994, NATO approved two milestone documents: a political framework paper structuring a broad political-military approach of the alliance to proliferation and a three-phase work plan for the senior defense group to address the defense implications of proliferation. The group is co-chaired by the United States and by one of the European allies on a rotating basis. France provided the first European co-chair. Having assessed the risks to the alliance, the senior defense group has begun grappling with the alliance's military capabilities and the operational implications of the threat or use of nuclear, chemical and biological weapons.

### ***NATO Committed***

The group's work is an important part of the alliance's continuing adaptation to the new security environment. This demonstrates NATO remains committed — indeed, well-qualified — to address emerging security concerns. It also provides a tangible example of the continued interest of the European allies in cooperative trans-Atlantic security with the United States.

Japan has also recognized the growing danger from attacks with missiles, the need to strengthen the defensive capabilities of U.S. and Japanese forces and the need to maintain capabilities for combined joint operations. The United States and Japan are working to identify Japan's theater missile defense needs and to evaluate options for acquiring that capability in future years, including cooperative programs.

DoD is beginning other cooperative efforts with allies. A March 1995 defense science symposium involving the United States, United Kingdom, Canada and Australia focused on counterproliferation technology applications and potential collaborative research and development. The United States, Canada and United Kingdom have initiated a cooperative research and development program to improve capabilities for detecting, characterizing and providing protection against biological and chemical

agents based on lessons learned during the Gulf War.

## PREVENTION

### Overview

Proliferation prevention is the primary U.S. objective. DoD contributions in this area are part of a coordinated effort involving multiple departments and agencies, allied states and international organizations. DoD support includes the Nunn-Lugar Cooperative Threat Reduction program, export control activities and DoD inspection, verification and enforcement support for applicable treaties and arms control regimes. DoD also plays an important role in the four thrusts involved in prevention — denial, reassurance, dissuasion and actions to reverse proliferation.

International norms and standards contribute to proliferation prevention by creating an atmosphere of restraint and providing preconditions such as, inspections that impede proliferation. These international norms can be specifically agreed to in export control and arms control agreements or they can result from informal arrangements between states.

A great success in the area of norm establishment has been DoD support for the unconditional and indefinite extension of the Nonproliferation Treaty. The 1970 treaty establishes obligations regarding transfer, manufacture and acquisition of nuclear explosive devices. It allows all parties to exchange equipment, materials and scientific and technological information for peaceful uses of nuclear energy while at the same time prohibiting transfer and acquisition of nuclear weapon capabilities.

DoD's Cooperative Threat Reduction program provides the services, tools and technology required to help former Soviet republics eliminate or reduce weapons of mass destruction and to modernize and expand safeguards against proliferation. The program consists currently of nearly 40 separate projects.

Destruction and dismantlement activities help eliminate weapons of mass destruction and their launchers in Russia, Belarus, Kazakhstan and Ukraine. The Cooperative Threat Reduction program provides equipment, services and training to assist Ukraine, Belarus and Kazakhstan in becoming nonnuclear weapons states; to speed Russian compliance with the Strategic Arms

Reduction Talks treaty; and to initiate and speed the destruction of Russian chemical weapons.

Chain of custody activities further decrease the dangers of ex-Soviet nuclear weapons and fissile materials. During the difficult, uncertain period of transition in former Soviet republics, the continued secure chain of custody of nuclear weapons and materials is vitally important to both them and the United States. U.S. projects help the republics control nuclear weapons and the fissile materials removed from them throughout the drawdown and dismantlement. This includes providing safe transportation and storage containers, security and accountability for fissile materials from sites and storage areas to dismantlement facilities, and designing, equipping and helping construct centralized fissile material storage facilities.

Cooperative Threat Reduction demilitarization activities in Ukraine, Belarus, Kazakhstan and Russia support conversion of defense enterprises, expand defense military contacts and re-employing weapons scientists. These activities decrease the long-term threat by reducing economic pressures and the republics' capacity to continue producing weapons of mass destruction.

Defense conversion partnerships reduce the potential of a future nuclear threat at its source, as do international science and technology centers set up in Moscow and Kiev by the United States and other countries. Through these centers, former Soviet nuclear scientists and engineers are re-employed in peaceful, civilian endeavors.

### Achievements Cited

Cooperative Threat Reduction has gone far to reduce the threat of proliferation within and outside the former Soviet Union in the three years of its existence. The bulk of achievements has been in just the past year.

The program has facilitated return to Russia of over 3,300 warheads from Belarus, Kazakhstan and Ukraine — including all those emplaced in the latter two; removal of 1,027 missiles from their launchers; and elimination of approximately 801 strategic launchers and heavy bombers throughout the former Soviet republics.

Cooperative Threat Reduction program funds partially financed Project Sapphire in November 1994. The mission removed 600

kilograms of highly enriched uranium to the United States from Kazakhstan.

#### **Control Halts Transfers**

U.S. export control policies stop, or at least retard, transfer of technologies to potential proliferant states that could permit the design, manufacture or acquisition of nuclear, chemical and biological weapons, their delivery systems and other dangerous armaments. The control policies also monitor flows of dual-use technologies

acceptable in themselves, but which could be diverted or applied to unacceptable military end uses.

DoD's technology security program is designed to prevent transfer of dangerous and sensitive technologies to countries that pose security threats. When technology is transferred to a nonthreatening country, DoD helps ensure the transfer is done in a manner that does not endanger U.S. interests or compromise our national security. In addition, it controls transfers of destabilizing conventional weapons and associated dual-use technologies, and supports the DoD Counterproliferation Initiative.

## **DEFENSE DEPARTMENT AND OTHER U.S. INTELLIGENCE ORGANIZATIONS ACTIVELY SUPPORT THE EXPORT REVIEW PROCESS BY IDENTIFYING THE KEY TECHNOLOGIES THAT ENABLE NUCLEAR, CHEMICAL AND BIOLOGICAL PROLIFERATION.**

The Defense Technology Security Administration provides military expertise in the processes used to review export applications and serves as the primary DoD agent for executing DoD's portion of the U.S. denial strategy. To prioritize export control reviews as they apply to choke points, the agency applies the Critical Technology Support Program, a congressionally mandated mechanism for identifying the most important, militarily relevant technologies. The Department of Energy, Defense Intelligence Agency, Defense Special Weapons Agency and other DoD components assist.

Defense Department and other U.S.

intelligence organizations actively support the export review process by identifying the key technologies that enable nuclear, chemical and biological proliferation. They provide information on pending or ongoing foreign shipments of critical materials, to include assessments of materials and their intended use.

These analysts also provide critical information about proliferants' covert procurement networks. Because many of these networks include maritime transport, the Counterproliferation Support Program is spending \$4.2 million this fiscal year on the Navy's Specific Emitter Identification System. The special equipment would improve DoD's ability to identify and track ships at sea suspected of transporting nuclear, chemical and biological weapons, delivery systems and related materials.

These intelligence capabilities will help the United States maintain and strengthen controls that can dramatically slow proliferants' progress and raise their costs. This contribution is important to the ongoing efforts to focus and strengthen key international export control regimes. These capabilities can also support diplomatic demarcations and international inspections.

While DoD shares responsibility for U.S. policy on international regimes with the State Department, Arms Control and Disarmament Agency and others, it provides technical and military expertise vital to making these regimes effective, and it participates in the negotiation of these regimes.

#### **Leadership Role**

DoD is also a leader in implementing many arms control and nonproliferation regimes. For example, the Defense Special Weapons Agency has focused efforts on technologies to assist in verification of arms control agreements. The On-Site Inspection Agency implements inspection and escort and monitoring requirements under the verification provisions of several U.S. treaties and agreements; \$102 million has been budgeted for inspection support in fiscal 1997.

The primary export control and international nonproliferation regimes are outlined below, with specific DoD contributions highlighted.

##### **□ COCOM Successor**

The Coordinating Committee for Multilateral Export Controls was a Cold War era

regime in which the United States and allies restricted the export of technologies to the Soviet Union and other communist countries. DoD has played a central role in negotiations to devise a successor regime. The aim is to provide transparency, responsibility and restraint in the transfer of conventional arms and sensitive dual-use technologies to countries and regions of concern.

This new regime is intended to complement and reinforce others. Through cooperation and sharing information, the United States and other participating countries will be able to better track and monitor sensitive arms and technology transfers as they occur. Russia and other formerly COCOM-proscribed countries have been invited to join the regime, the incentives including greater access to advanced technologies provided they follow the regime's rules. This parallels the Cooperative Threat Reduction program and other DoD efforts to address proliferation issues with the former Soviet republics.

#### **□ Missile Technology Control Regime**

The regime, a voluntary arrangement of 28 states including the United States, Canada, Western Europe, Russia, Japan and Australia, controls exports of military and dual-use equipment and technology that are relevant to missile development, production and operation.

DoD provides intelligence and operational expertise for the national-level decisions that are made case by case concerning implementation of this regime's controls.

#### **□ Nuclear Suppliers' Group**

Comprising 30 countries, the group seeks to control exports of nuclear and dual-use materials, equipment and technology. Russia is a member, but Belarus, Ukraine and Kazakhstan are not. China and Brazil are among the major potential suppliers that are not members. The U.S. position is that observance of group guidelines for nuclear exports by all potential suppliers, irrespective of membership, is crucial for controlling the flow of nuclear materials and technologies.

#### **□ Australia Group**

An informal arrangement of 29 industrial countries, the group seeks to prevent the spread of chemical and biological weapons material and dual-use technology. The group holds information exchanges and prepares lists of chemical precursors, microorganisms and related equipment for member countries to control by export licensing and monitoring.

#### **□ Comprehensive Test Ban Treaty**

The United States is seeking to conclude treaty negotiations this year in the Conference on Disarmament. A comprehensive treaty will strengthen the global norm against proliferation of nuclear weapons and constrain development of nuclear weapons capability in both proliferant states and acknowledged nuclear weapon states.

DoD provides technical expertise in the treaty negotiations. The Defense Nuclear Treaty Programs Office implements DoD responsibilities under the test ban treaty. To verify compliance, the treaty will have a verification regime composed of nationally operated sensors, data centers and on-site inspections; \$26.8 million has been budgeted for fiscal 1997. The Air Force has a program to improve its ability to detect nuclear detonations; \$13.6 million has been budgeted in fiscal 1997 for the program.

#### **□ Biological Weapons Convention**

The convention was signed in 1972 and prohibits the development, production and stockpiling of biological weapons. The United States is promoting new measures that increase transparency of potentially related activities and facilities in an effort to deter violations of and enhance compliance.

DoD will be part of the U.S. delegation to ad hoc group negotiations and will play an important role in U.S. efforts to develop off-site and on-site compliance verification measures for consideration by the group. The United States strongly supports the development of a legally binding protocol of such measures to strengthen the convention.

#### **□ Chemical Weapons Convention**

The convention bans use, development, production, acquisition, stockpiling and transfer of chemical weapons. Opened for signature on Jan. 13, 1993, as of March 15, 1996, the convention had 160 signatories and will enter into force 180 days following deposit of the 65th ratification with the United Nations (currently there are 60 ratifications). The Chemical Weapons Convention Preparatory Commission is completing details necessary to have the Organization for the Prohibition of Chemical Weapons fully operational at entry into force.

DoD has participated actively throughout the preparatory commission process, providing expertise on a range of implementation issues such as inspection procedures, data management and inspector training. Specifically, the Defense Special Weapons Agency

**THE EFFECTIVENESS  
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BY THE EXTENT TO WHICH  
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AND IN THE MESSAGE DENIAL  
EFFORTS CONVEY REGARDING  
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OF PURPOSE.**

and confidence building, security assistance and other forms of reassurance that security needs can be met without resorting to nuclear, chemical and biological proliferation, and with a vigorous public diplomacy campaign that emphasizes the political, economic, and military costs of proliferation.

Regional instability remains one motivation for proliferation. By reducing regional tensions, we can help reduce the demand for both nuclear, chemical and biological and advanced conventional weapons. The Organization on Security and Cooperation in Europe and the Middle East Arms Control and Regional Security working group are

is accomplishing the Chemical Weapons Convention Verification Technology Program, which focuses on the technologies required for multinational verification of the convention. Approximately \$7.2 million has been budgeted for this program in fiscal 1997.

These nonproliferation regimes may not be able to prevent proliferation by a determined leadership. Experience suggests a determined proliferant is likely to succeed. The effectiveness of denial strategy should be determined by the extent to which it

frustrates and slows proliferants' efforts, and in the message denial efforts convey regarding our seriousness of purpose. This success is best measured as a function of time — time to improve regional instabilities that affect the motivations to acquire or develop nuclear, chemical and biological weapons and their delivery systems, and time to dissuade existing and potential proliferants.

***Reassurance and  
Dissuasion***

Denial efforts put time on our side, but time is not enough. Denial must be complemented by regional security dialogue, arms control

two regional arms control and confidence building fora that work to broker agreements to reduce regional tensions.

The Organization on Security and Cooperation in Europe has provided the framework for the negotiation of several important European security agreements such as the 1990, 1992 and 1994 Vienna Documents and the 1990 Conventional Forces in Europe Treaty. The Organization on Security and Cooperation in Europe Forum for Security Cooperation agreed to a code of conduct for political-military behavior, a global exchange of military information, and nonproliferation principles at its 1994 Budapest summit.

Created in 1991 as part of the Madrid Middle East peace process, the Middle East Arms Control and Regional Security working group is a forum for developing regional confidence building measures. It is one of several multilateral working groups in the Madrid process designed to complement the bilateral peace talks. DoD has played a critical role in supporting these efforts by providing operational and technical expertise to these negotiations.

U.S. security assistance programs also can help to defuse regional tensions by enabling friends and allies to acquire conventional equipment, services and training for legitimate self-defense and to support participation in multilateral security efforts, such as coalition warfare. U.S. security assistance programs include Foreign Military Sales, International Military Education and Training and emergency provision of excess U.S. defense articles. These programs supplement U.S. overseas presence and peacetime engagement by improving the defense capabilities of allies and friends, while demonstrating U.S. commitment to defend common interests.

Alliances and bilateral defense arrangements create a powerful incentive for allies and friends to refrain from acquisition of nuclear, chemical and biological weapons. Through forward deployment of U.S. military forces, the United States provides allies with tangible demonstrations of its commitment to their security, notwithstanding proliferation by other nations in their region. Forward deployment of capable combat forces and periodic demonstrations of our ability to deploy additional forces from the United States may be DoD's most important contribution to proliferation prevention.

These tangible demonstrations of security commitments make it possible for responsible leaderships in allied and friendly nations to conclude they can rely on U.S. security commitments to provide for their security.

Military-to-military cooperation and contacts also help reassure friends and allies while at the same time dissuading the acquisition of nuclear, chemical and biological weapons and technology. The extensive U.S. bilateral military-to-military contact program builds trust and promotes professionalism in the armed forces of our friends and allies. These contacts also reinforce basic tenets such as civilian control of the military and the honoring of international norms of behavior.

Regional arms control and confidence building, security assistance and alliance efforts, and military-to-military contacts, however, are only as good as our ability to effectively communicate our intent to proliferants and those threatened by that proliferation. U.S. counterproliferation efforts are part of this public diplomacy campaign. The preparations we undertake through the Defense Counterproliferation Initiative will provide the ability to protect our forces, allies and future coalition partners from the consequences of nuclear, chemical and biological weapons and their delivery systems attack. This initiative is designed to support our public diplomacy campaign by not only convincing proliferants they gain no advantage through nuclear, chemical and biological weapons and their delivery systems proliferation (at great expense), but also by helping states resist the temptation to proliferate in response to an adversary's proliferation.

#### **Actions to Reverse Proliferation**

Measures to reverse proliferation are the final component of prevention. In some instances, this is involuntary, as in Iraq under U.N. supervision. In other cases, action is self-initiated, as appears to have been the case in South Africa and the non-Russian states formerly part of the Soviet Union that had nuclear weapons on their territory. Available policy instruments here include making available intelligence information concerning the status of regional proliferation (and proliferation reversal) efforts, initiatives to defuse regional tensions that might motivate proliferation, and

support for inspection and verification activities. The Nunn-Lugar Cooperative Threat Reduction program is particularly significant in those states of the former Soviet Union that had nuclear weapons.

#### **Conclusion**

The proliferation of nuclear, chemical and biological weapons is not a hypothetical threat. A number of states have these weapons, and an even larger number are capable of making them, potentially on short notice.

Prevention of proliferation is the first priority. The Department of Defense provides critical support to national and international prevention efforts. The Defense Department has unique responsibilities for the military responses needed if prevention fails: active defense, passive defense, counterforce and response to paramilitary/covert threats.

Our current appreciation of the counterproliferation threat dates from the Persian Gulf War, in which there were a number of unpleasant surprises involving Iraq's nuclear, chemical and biological programs. Development of a coherent effective national response has required policy initiatives, adaptation of military planning and operations, acquisition of new capabilities, new intelligence community programs and international cooperation. In a brief period, considerable progress has been made. Much, however, remains to be done. ▼



Helene Stikkel

Defense Secretary William J. Perry and Ukrainian officials witness the permanent removal of an ex-Soviet missile from its silo at Pervomaysk, Ukraine, in April 1995.

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**COVER:** A photographer in a hovering helicopter captures a mail drop to the crew of the attack submarine USS Scranton in mid-July. The sub was on its way home to Norfolk, Va., after patrolling the Mediterranean and Arabian Gulf for six months in support of operations Joint Endeavor and Southern Watch.

Petty Officer 3rd Class Chris Vickers, USN

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